



U.S. Department
of Transportation
**Federal Aviation
Administration**



SDR

Service Difficulty Reporting

Summary

November 16, 1997 - November 22, 1997

GENERAL AVIATION, ZAC-327

You can improve Air Safety by reporting the problem when you see it!

SECTION

- I Significant Occurrence Report
- II Domestic Service Difficulty Report
- III International Service Difficulty Report
- IV SDR Totals by District Office
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ISSUE: 97-47



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SDR SUMMARY

General Aviation, ZAC-327



This summary includes domestic (United States) Service Difficulty Reports (SDRs) entered into the data base for aircraft weighing 12,500 lbs. and below. It also includes reports on aeronautical products (engines, propellers, and components), and all helicopters. A separate section for International SDRs for aircraft weighing 12,500 lbs. and under has also been included. Under a data exchange agreement, International SDRs are submitted to the FAA by the Civil Aviation Authority of other countries (currently, Canada - CAN, and Australia - AUS). All reports are sorted by aircraft make, model group (basic model), and Joint Aircraft System/Component (JASC) code. Within each aircraft model group, the specific model shown may vary, but similar types of reports will be grouped together and listed in ascending order by their JASC code. Each field contains all information submitted to the FAA. Some fields are not included in order to make the summary easier to read. Additional information may be obtained by referring to the "operator control number." Send your request to the Aviation Data Systems Branch, AFS-620 at the address or phone below.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet through which the same information is available. There is a large quantity of other information available through the AFS-600 HomePage such as the most current SDR system codes (i.e., Joint Aircraft System/Component Codes). The SDR Question and Answer Section of the Summary will also be transferred to the AFS-600 HomePage to simplify the process of preparing the SDR Summaries in the PDF format each week. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service Information is available. The AFS-600 "HomePage" address is:

<http://www.mmac.jccbi.gov/afs/afs600>

"The Service Difficulty Reports in this publication are derived from unverified information submitted by the aviation community without FAA verification for accuracy. The number of SDRs submitted is not an indication of the mechanical reliability or fitness of an airline or individual operator, and the information should not be used as such."

Comments are welcomed and may be directed to:

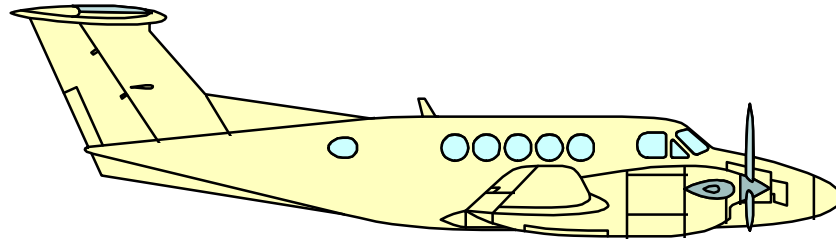
*Federal Aviation Administration
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125-5029
Phone: (405) 954-4171, Fax: (405) 954-4748*

Your continued participation is essential and is an integral part of ensuring aviation safety. Thank you for supporting the Service Difficulty Program! If you have any questions regarding this special notice you can contact John Jackson at (405) 954-6486, or Jim Gillespie at (405) 954-1141, or Blake McDonald at (405) 954-0307 in the Aviation Systems Branch (AFS-620). Their E-mail addresses are:

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SIGNIFICANT OCCURRENCE REPORT





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THE SIGNIFICANT OCCURRENCE REPORT



The Significant Occurrence Report is a compilation all of the star bordered reports that appear in the General Aviation Service Difficulty Report (SDR) Summary, ZAC-327. The Significant Occurrence Report is used to highlight industry problem areas to field inspectors and the aviation public.

Limited analysis is performed by the Aviation Data Systems Branch, AFS-620 during the preparation of the "Significant Occurrence Report", which is generated each week and is included in the front of the Air Carrier SDR Summary. Significant Reports are hand selected by AFS-620's inspectors based on the individual merit of each report. The criteria for selection includes, but is not limited to, items that indicate high failure rates; items related to accidents or incidents; or design or maintenance failures which may affect the safe operation of the aircraft.

In some cases, this limited analysis of SDR data leads to the preparation of information bulletins which are routed to the appropriate product certification office for further investigation of the problem. The end result may be the issuance of an airworthiness directive (AD) by the Aircraft Certification Service (AIR) if warranted.

The Significant Occurrence Report (section I) of the weekly SDR Summary is not intended to be a summary of all significant events and should not be used as such. We recommend that you review further the applicable sections of the SDR summary that may be of interest.

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT

11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7420	1880G 50	BBAVIA 7GCBC	LYC O320A2B			P LEAD	SHORTED LT-RT MAG		8/31/97 97ZZZX4812
*****	FORCED LANDING DUE TO ENGINE STOPPAGE. INVESTIGATION DETERMINED ENGINE STOPPAGE DUE TO WIRE BETWEEN MASTER SWITCH LOCATED ABOVE AND LEFT OF PILOT'S HEAD AND THE OVERVOLTAGE RELAY LOCATED ON RIGHT UPPER SIDE OF ENGINE FIREWALL BECOMING EXTREMELY HOT. THE EXTREME TEMPERATURE MELTED WIRE'S INSULATION AND P-LEAD WIRES IN SAME WIRE BUNDLE. THIS SHORTED THE LEFT AND RIGHT MAGNETOS CAUSING ENGINE TO CEASE OPERATION. THERE IS NO CIRCUIT PROTECTION FOR THE WIRE IN QUESTION BETWEEN MASTER SWITCH AND OVERVOLTAGE RELAY. SUBMITTER SUGGESTED A SB TO REQUIRE A BREAKER SWITCH BE INSTALLED IN PLACE OF STANDARD MASTER SWITCH AND THIS SB BE MANDATED BY AD.								
3233		BEECH A100	PWA PT6A34		BEECH 99910057651	BEARING MRC7107KRD	DESTROYED LDG GEAR ACTUATR		8/27/94 CA940914024
*****	(CAN) ON RETRACTION GEAR HAD TO BE MANUALLY LOWERED. RH MLG ACTUATOR CROWN & PINION GEARS WERE CHIPPED & HAD JAMMED. 10 HOURS PREVIOUS A 1000 CYCLE ACTUATOR END PLAY INSP WHICH INCLUDED DISASSEMBLY HAD BEEN PERFORMED. LOWER THRUST BEARING HAD BEEN INSTALLED UPSIDE DOWN, CAUSING BEARING TO FAIL ALLOWING EXCESSIVE BACKLASH ON CROWN & PINION GEARS.								
RF1R 5741	132Z TJ284	BEECH 58P				CRUSH WASHER 105090A0321UJ	DEFORMED LT WING BOLT	8	11/8/97 97ZZZX4814
*****	UPON INSPECTION OF AIRCRAFT, FOUND LEFT WING SETTING AT A HIGHER ANGLE OF INCIDENCE. FURTHER INSPECTION REVEALED THE UPPER AFT CRUSH WASHER AND BOLT HAD SLIPPED DOWN APPROXIMATELY .25 INCH CAUSING LEFT WING TO HAVE MORE LIFT. AIRCRAFT HAD JUST FINISHED WITH A STRUCTURAL INSPECTION. ALL EIGHT WING BOLTS WERE REMOVED AND MAGNAFLUXED. THE CRUSH WASHER CLEARLY HAD 2 SETS OF SERRATIONS WHERE IT HAD SLIPPED AND WAS RETORQUED.								
6220	937R 51255	BELL 206L3				BEARING 206011118001	DEFECTIVE M/R GRIP		11/3/97 97ZZZX4833
*****	FOUR NEW M/R GRIP BEARINGS WERE RECEIVED FROM BELL HELICOPTER. A MECHANIC CLEANED THEM PRIOR TO PACKING WITH GREASE AND ON ONE BEARING FOUND THAT ONE ROLLER WAS MISSING, A SECOND BEARING HAD 7 ROLLERS THAT WOULD NOT ROLL IN THE CAGE (APPROXIMATELY 1 INCH SPAN). THIS SHOWS THE IMPORTANCE OF INSPECTING PARTS PRIOR TO INSTALLING EVEN THOUGH THEY ARE NEW.								
6320	55TV 3788	BELL 206B3			206040002029	SUNGEAR 20604562101	WORN TRANSMISSION	2998	10/28/97 97ZZZX4822
*****	SPLINES SEVERELY WORN AND 3 CRACKED. SUSPECT CAUSE DUE TO LENGTH OF CALENDAR TIME INSTALLED INDICATING A BREAK DOWN OF THE LUBRICANT. PERIOD OF INSTALLATION WAS 13 YEARS. SUBMITTER RECOMMENDS A CALENDAR LIMITATION OF 4 YEARS AS WELL AS THE EXISTING HOURLY FREQUENCY.								
AIHR 5511	4837P 15284828	CESSNA 152				RIB	CRACKED HORIZONTAL STAB	7200	10/31/97 97ZZZX4800
*****	INSPECTION FOUND FAR RIGHT RIB IN HORIZONTAL STABILIZER CRACKED. LOWER CRACK FOUND TO BE 1 INCH, WHILE TOP, .75 INCH. THESE CRACKS ARE OVER AND BELOW THE ELEVATOR HINGE ATTACH POINT. IF NOT FOUND, COULD, IN TIME, CAUSE SEPARATION OF ELEVATOR FROM STABILIZER.								
2701	2642L 17255842	CESSNA 172H				U-JOINT 0411257	WORN LT CONTROL YOKE	5887	10/18/97 97ZZZX4749
*****	DURING ANNUAL INSPECTION, PILOT SIDE CONTROL HAD EXCESS LOOSE MOTION. THE U-JOINT THAT CONNECTS THE CONTROL WHEEL SHAFT TO THE YOKE WAS WORN ENOUGH, THAT IT WAS SOON TO BE HAZARDOUS TO FLIGHT SAFETY. SUMITTER STATED THIS IS THE FOURTH ONE SEEN IN THIS SHAPE. THIS NEEDS TO BE CHECKED AT EACH INSPECTION.								
2720	6529V 172RG0755	CESSNA 172RG				TORQUE TUBE 24670014	BROKEN RUDDER CONTROL	7969	10/30/97 97ZZZX4801
*****	PILOT REPORTED LOSS OF RUDDER CONTROL IN-FLIGHT ALTHOUGH HE WAS ABLE TO MAINTAIN CONTROL OF THE AIRCRAFT AND MADE AN UNEVENTFUL LANDING. FOUND THE AFT (RIGHT HAND) RUDDER PEDAL TORQUE TUBE WAS BROKEN APPROXIMATELY 7/8 OF THE WAY AROUND THE TUBE JUST TO THE LEFT SIDE OF THE SECTOR GEAR. THIS ALLOWED THE TWO SECTOR GEARS TO DISENGAGE WHICH UNSYNCHRONIZED THE TWO TORQUE TUBES. BECAUSE OF THIS, THE RUDDER CABLE TENSION WAS UNABLE TO BE MAINTAINED.								

GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT (cont'd)

11/16/97 To 11/22/97 ISSUE: 97-47 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
DVPR 5312 *****	734EQ 17268800	CESSNA 172N				BULKHEAD 051300634	CRACKED LT FWD DOORPOST	8176	10/30/97 97ZZZX4760
INSPECTION REVEALED A CRACK IN THE LOWER DOOR HINGE LOCATION ON THE LEFT HAND DOORPOST. CRACK WAS APPROXIMATELY 1.6250 INCHES LONG. CRACK ORIGINATES AT AFT HINGE ATTACH HOLE AND PROGRESSES IN EITHER DIRECTION. DOORPOST WAS REPLACED.									
3222 *****	3281S 18255781	CESSNA 182G				TORQUE LINK 0543034497	CRACKED NLG	4848	11/5/97 97ZZZX4798
DURING AN ANNUAL INSPECTION, THE UPPER TORQUE LINK OF THE NOSE LANDING GEAR WAS FOUND CRACKED IN THE RADIUS OF THE UPPER FORGED RIB ADJACENT TO THE ATTACH BOLT HOLE. BOTH SIDES WERE CRACKED.									
6111 *****	931FE 208B0031	CESSNA 208B		HARTZL HCB3M		BLADE M10083	CRACKED BLADE FACE	5378 2091	10/22/97 97ZZZX4803
INSPECTION FOUND ALL 3 BLADES HAVE CHORDWISE CRACKS BEYOND THE 3.5 INCH LIMIT. ALL CRACKS LEAD UP TO AND POSSIBLY UNDER THE EROSION SHIELD. THE CRACKS WERE FOUND DURING INSPECTION PER HARTZELL JB 169A. PROPELLER REMOVED FROM SERVICE AT THIS TIME.									
B3OR 7810 *****	9403Y 21064498	CESSNA T210N				EXHAUST K1250860M203	CRACKED TURBO INLET	230	10/29/97 97ZZZX4778
WHILE CHANGING A CRACKED TURBO INLET (PN K1250860M-105), THE HEAT EXCHANGER WAS FOUND CRACKED. OUT OF 4 AIRCRAFT WITH THIS STC EXHAUST, ALL 4 HAVE HAD THE TURBO INLETS CRACK. THE REPLACEMENTS ARE ASSEMBLED DIFFERENTLY, APPARENTLY TO PREVENT THIS PROBLEM. THE HEAT EXCHANGER IS THE SECOND ONE FOUND CRACKED AT THE WELD LINE WHERE THE NR 6 CYLINDER RISER ATTACHES.									
B3OR 3242 *****	98834 310R0603	CESSNA 310R			PARKERHAN 99448	LINING 06603300	WORN LT MLG BRAKE		10/29/97 97ZZZX4768
BRAKE LINING WORN THIN. CALIPER PISTON OUT TOO FAR ALLOWING FLUID TO BYPASS O-RINGS OR FLUID LEVEL WAS LOW FROM CALIPER LEAK AND NO FLUID IN MASTER CYLINDER. O-RINGS LOOKED GOOD.									
3250 *****	3426X 3399	MOONE M20L				STEERING SYSTEM	FAILED RUD-NLG		10/20/97 97ZZZX4799
DURING TOUCH AND GO LANDING, LOST CONTROL OF ACFT FOLLOWING TOUCH DOWN. ACFT RECEIVED SUBSTANTIAL DAMAGE AFTER VEERING TO LEFT. NLG BROKE AND RT MLG COLLAPSED. IT IS BELIEVED RUDDER NLG STEERING SYSTEM BOLT SHEARED.									
B2ER 3230 *****	9392N 28R35102	PIPER PA28R200				FITTING 6703102	BROKEN RT MLG RETRACT	3774	10/2/97 97ZZZX4766
WHEN INSPECTING LANDING GEAR FOUND FITTING-GEAR RETRACTION, RIGHT AND LEFT, BROKEN WHERE ROD IS MOUNTED. WHEN THIS PART IS BROKEN IT PREVENTS LANDING GEAR TO EXTEND AND LOCK.									
7810 *****	7325L 317400206	PIPER PA31P				BRACKET 4701402	FAILED RT EXHAUST		11/1/97 97ZZZX4819
DURING TAKEOFF, RT TAILPIPE FELL OFF AIRCRAFT. EXHAUST BURNED A HOLE IN LOWER COWL. INVESTIGATION FOUND ISOLATOR BRACKETS BROKEN, AND ALL EXHAUST SLIP JOINTS LOOSE. SUSPECT LOOSE JOINTS CAUSED VIBRATION THAT BROKE ISOLATOR BRACKET. SUBMITTER RECOMMENDS THE EXHAUST SYSTEM BE PRESSURE TESTED TO FIND LOOSE SLIP JOINTS.									
2410 *****	415WR 3246072	PIPER PA32R301				BELT	FAILED ALT DRIVE	160	11/1/97 97ZZZX4818
AIRCRAFT ON IFR FLIGHT PLAN LOST ALL ELECTRICAL POWER. LANDED WITHOUT ACCIDENT. INSPECTION REVEALED THE ALTERNATOR IDLE PULLEY WHICH TENSIONS THE BELT WAS CHAFING ON A COWLING STIFFENER CAUSING THE BELT TO TEAR. THIS IS A NEW AIRCRAFT, TOTAL TIME, 159.8 HOURS. PIPER SERVICE CENTER STATED A SL WAS ISSUED TO RELOCATE THE STIFFENER, BUT THIS AIRCRAFT WAS OVERLOOKED AT THE DISTRIBUTER.									

***** DENOTES SIGNIFICANT OCCURRENCE

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
FFKA	7748J	PIPER	LYC		SLICK	IMPULSE COUPLING	BROKEN	667	10/15/97
7414	321152	PA32260	O540E4B5		6355	M3635	LT MAG		97ZZZX4762
*****	ACFT IN CRUISE AT 4,000 FEET ON IFR FLIGHT PLAN WHEN ENGINE SUDDENLY LOST POWER. ALL ATTEMPTS MADE BY PILOT TO RESTART THE ENGINE UNSUCCESSFUL. PILOT WAS ABLE TO MAKE A FORCED LANDING IN A COW POSTURE. INVESTIGATION AND ENG TEAR DOWN REVEALED LT MAG HAD SEIZED. MORE SPECIFICALLY, THE RIVETS WHICH RETAIN PAWLS INSIDE IMPULSE COUPLING ASSY, PN M3635, HAD FAILED CAUSING PAWLS TO JAM BETWEEN MAG HOUSING AND THE IMPULSE COUPLING ASSY. THIS PREVENTED MAG FROM TURNING WHICH DAMAGED BOTH THE CRANKSHAFT AND IDLER GEARS IN ENG ACCY HOUSING. INSP OF THE IMPULSE COUPLING ASSY AND RETAINING RIVETS ARE DETAILED IN SLICK L-1363 MAIN AND O/H MANUAL, WHICH, ACCORDING TO SLICK, IS REFERENCED IN THEIR 500 HOUR INSP.								
	159RP	ROBSIN				DRAIN TUBE	LEAKS	95	11/5/97
2810	0342	R44				A7297	RT FIREWALL		97ZZZX4811
*****	DRAIN TUBE OPENING IS LOCATED INSIDE AIRFRAME IN TRANSMISSION AREA. WHEN SUMP DRAIN VALVE LEAKS, FUEL DRAINS INTO AND ACCUMULATES AT JUNCTION OF FIREWALLS CREATING EXTREME FIRE HAZARD. SUBMITTER RECOMMENDS REVISING THE SUMP DRAIN PLUMBING ALA R22 SYSTEM TO PROVIDE POSITIVE OVERBOARD VENTING OF FUEL IN THE EVENT OF DRAIN VALVE SEEPAGE. REF: R44 IPC FIG 8-5, ITEMS 8 AND 10.								

(End of GENERAL AVIATION SIGNIFICANT OCCURRENCE REPORT)

FEDERAL AVIATION ADMINISTRATION
SIGNIFICANT OCCURRENCE REPORT INDEX

Showing Specific Part Numbers and Aircraft Model by Year

FOR THE PERIOD OF: 11/16/97 To 11/22/97

<u>PART NUMBER</u>			<u>YEAR</u>										
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
0411257													
U-JOINT	172H	1	-	-	-	-	-	-	-	-	-	-	1
	182	1	-	-	-	-	1	-	-	-	-	-	-
UNIVERSAL	180	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 0411257 - - - - -		3	-	-	-	-	1	-	-	-	-	-	2
051300634													
BULKHEAD	172N	1	-	-	-	-	-	-	-	-	-	-	1
DOOR POST	172N	1	-	-	-	-	-	-	1	-	-	-	-
TOTAL of # 051300634 - - - - -		2	-	-	-	-	-	-	1	-	-	-	1
0543034497													
TORQUE LINK	182G	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 0543034497 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
06603300													
LINING	310R	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 06603300 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
105090A0321UJ													
CRUSH WASHER	58P	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 105090A0321UJ - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
206011118001													
BEARING	206B3	2	-	-	-	-	-	1	1	-	-	-	-
	206L3	1	-	-	-	-	-	-	-	-	-	-	1
	206L3	3	-	-	-	-	1	1	-	-	-	-	1
TOTAL of # 206011118001 - - - - -		6	-	-	-	-	1	2	1	-	-	-	2
20604562101													
SUNGEAR	206B3	1	-	-	-	-	-	-	-	-	-	-	1

FAA SIGNIFICANT OCCURRENCE REPORT INDEX 11/16/97 To 11/22/97 (cont'd)

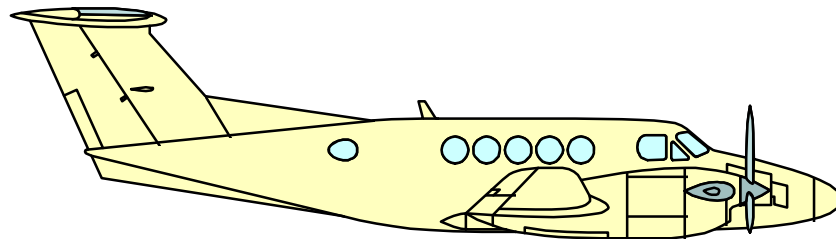
<u>PART NUMBER</u>		<u>YEAR</u>											
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
TOTAL of # 20604562101 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
24670014													
TORQUE TUBE	172RG	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 24670014 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
3353001100													
GEARBOX	unknown	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 3353001100 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
4701402													
BRACKET	PA31P	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 4701402 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
6703102													
FITTING	PA28R180	2	-	-	-	1	-	-	1	-	-	-	-
	PA28R200	1	-	-	-	-	-	-	-	-	-	-	1
	PA32R300	1	-	-	-	-	-	1	-	-	-	-	-
	PA34200T	1	-	-	-	-	-	-	-	-	-	1	-
TOTAL of # 6703102 - - - - -		5	-	-	-	1	-	1	1	-	-	1	1
8954932													
PISTON	unknown	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # 8954932 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
A7297													
DRAIN TUBE	R44	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # A7297 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
K1250860M203													
EXHAUST	T210N	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # K1250860M203 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
M10083													
BLADE	208B	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # M10083 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
M3635													
IMPULSE COUPLING	PA32260	1	-	-	-	-	-	-	-	-	-	-	1

FAA SIGNIFICANT OCCURRENCE REPORT INDEX 11/16/97 To 11/22/97 (cont'd)

<u>PART NUMBER</u>		<u>YEAR</u>											
<u>PART NAME</u>	<u>ACFT MODEL</u>	<u>TOTAL</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
TOTAL of # M3635 - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
MRC7107KRD													
BEARING	A100	1	-	-	-	-	-	-	-	-	-	-	1
TOTAL of # MRC7107KRD - - - - -		1	-	-	-	-	-	-	-	-	-	-	1
TOTAL for ALL (25) PART NUMBERS: - - - -		29	-	-	-	1	2	3	3	-	-	1	19
END OF SIGNIFICANT OCCURRENCE REPORT INDEX													



DOMESTIC SERVICE DIFFICULTY REPORT



DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
HEEA 2130	789DS BB478	BEECH 200BEECH				PNEUMOSTAT 1013800133	FAILED CABIN PRESS		10/22/97 HEEA0011660
PNEUMOSTAT FAILED PRESSURE TEST IN FLIGHT.									
HEEA 2130	789DS BB478	BEECH 200BEECH				PRESSURE CONTROL 1303466	DEFECTIVE CABIN RATE		11/7/97 HEEA0011823
PRESSURIZATION RATE KNOB STIFF.									
HEEA 2822	30PH BB635	BEECH 200BEECH				PUMP 91380003	LEAKING FUEL SYS		10/22/97 HEEA0011678
FUEL PUMP LEAKING AT DRIVE SHAFT.									
HEEA 7712	500PH BL29	BEECH 200CBEECH				TORQUEMETER 1013890053	DEFECTIVE ENGINE		10/22/97 HEEA0011719
TORQUEMETER CALIBRATION IS OFF, TRANSMITS HIGH.									
RF1R 3230	132Z TJ284	BEECH 58P				GEARBOX	OUT OF RIG LANDING GEAR	4990 8	11/8/97 97ZZZX4795
UPON INSPECTION OF AIRCRAFT, THE LANDING GEAR HAD NO INTERNAL GEAR CLEARANCE IN ACTUATOR GEARBOX. AIRCRAFT HAD BEEN RIGGED 7.5 HOURS PRIOR AFTER THE NOSE GEAR FORWARD ROD END HAD BEEN REPLACED.									
RF1R 5260	132Z TJ284	BEECH 58P				STEP 00243007621	CRACKED RT SIDE	4990 8	11/8/97 97ZZZX4816
UPON INSPECTION OF AIRCRAFT, FOUND RIGHT SIDE ASSIST STEP CRACKED WHERE IT HAD BEEN WELDED 7.5 HOURS AGO.									
RF1R 5312	132Z TJ284	BEECH 58P				BULKHEAD 00244002455	MISINSTALLED AFT FUSELAGE	8	11/8/97 97ZZZX4815
UPON INSPECTION OF AIRCRAFT, FOUND AFT FUSELAGE BULKHEAD IMPROPERLY RIVETED. RIVET HEADS CLEARLY HAVE DENTS ALMOST LOOKING LIKE WRONG SET WAS USED TO DRIVE RIVETS. MOST OF THE UPSET ENDS WERE NOT PROPERLY BURRED. ALL RIVETS WERE REMOVED AND REPLACED AND PROPERLY RIVETED.									
RF1R 5350	132Z TJ284	BEECH 58P				FAIRING 10210002617	DEFORMED LT WING	4990	11/8/97 97ZZZX4794
UPON INSPECTION OF AIRCRAFT, NOTED LT WING INBOARD FAIRING DENTED AND DEFORMED. WING HAD JUST BEEN REMOVED AND REINSTALLED FOR A STRUCTURAL INSPECTION 7.5 HOURS PRIOR.									
RF1R 5741 *****	132Z TJ284	BEECH 58P				CRUSH WASHER 105090A0321UJ	DEFORMED LT WING BOLT	8	11/8/97 97ZZZX4814
UPON INSPECTION OF AIRCRAFT, FOUND LEFT WING SETTING AT A HIGHER ANGLE OF INCIDENCE. FURTHER INSPECTION REVEALED THE UPPER AFT CRUSH WASHER AND BOLT HAD SLIPPED DOWN APPROXIMATELY .25 INCH CAUSING LEFT WING TO HAVE MORE LIFT. AIRCRAFT HAD JUST FINISHED WITH A STRUCTURAL INSPECTION. ALL EIGHT WING BOLTS WERE REMOVED AND MAGNAFLUXED. THE CRUSH WASHER CLEARLY HAD 2 SETS OF SERRATIONS WHERE IT HAD SLIPPED AND WAS RETORQUED.									
8011		BEECH 76			MHB4014	BENDIX DRIVE ESEBB142A	FAILED STARTER	258	11/14/97 97ZZZX4813
BENDIX DRIVER FAILED AFTER 194 HOURS, REPLACED WITH SAME, FAILED AFTER 62 HOURS, REPLACED WITH SAME, FAILED AFTER 396.6 HOURS. REPLACED WITH EBB142A. EBB142A FAILED TO EXTEND AT 258 HOURS, CLEANED AND LUBED PER MFG, FAILED TO EXTEND AFTER 21 HOURS.									

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AIHR 5511 *****	4837P 15284828	CESSNA 152				RIB	CRACKED HORIZONTAL STAB	7200	10/31/97 97ZZZX4800
INSPECTION FOUND FAR RIGHT RIB IN HORIZONTAL STABILIZER CRACKED. LOWER CRACK FOUND TO BE 1 INCH, WHILE TOP, .75 INCH. THESE CRACKS ARE OVER AND BELOW THE ELEVATOR HINGE ATTACH POINT. IF NOT FOUND, COULD, IN TIME, CAUSE SEPARATION OF ELEVATOR FROM STABILIZER.									
2701	21089 17249608	CESSNA 172D				WHEEL 15131682	BROKE PILOT YOKE	2770	8/25/97 97ZZZX4817
PILOT CONTROL YOKE BROKE, LEFT SIDE BOTTOM, IN LANDING FULL STALL CONDITION. PLASTIC MAY HAVE AGED. AIRCRAFT IS A 1962 MODEL AND HAS BEEN PARKED OUTSIDE MOST OF THE TIME.									
2701 *****	2642L 17255842	CESSNA 172H				U-JOINT 0411257	WORN LT CONTROL YOKE	5887	10/18/97 97ZZZX4749
DURING ANNUAL INSPECTION, PILOT SIDE CONTROL HAD EXCESS LOOSE MOTION. THE U-JOINT THAT CONNECTS THE CONTROL WHEEL SHAFT TO THE YOKE WAS WORN ENOUGH, THAT IT WAS SOON TO BE HAZARDOUS TO FLIGHT SAFETY. SUMMITTER STATED THIS IS THE FOURTH ONE SEEN IN THIS SHAPE. THIS NEEDS TO BE CHECKED AT EACH INSPECTION.									
2720 *****	6529V 172RG0755	CESSNA 172RG				TORQUE TUBE 24670014	BROKEN RUDDER CONTROL	7969	10/30/97 97ZZZX4801
PILOT REPORTED LOSS OF RUDDER CONTROL IN-FLIGHT ALTHOUGH HE WAS ABLE TO MAINTAIN CONTROL OF THE AIRCRAFT AND MADE AN UNEVENTFUL LANDING. FOUND THE AFT (RIGHT HAND) RUDDER PEDAL TORQUE TUBE WAS BROKEN APPROXIMATELY 7/8 OF THE WAY AROUND THE TUBE JUST TO THE LEFT SIDE OF THE SECTOR GEAR. THIS ALLOWED THE TWO SECTOR GEARS TO DISENGAGE WHICH UNSYNCHRONIZED THE TWO TORQUE TUBES. BECAUSE OF THIS, THE RUDDER CABLE TENSION WAS UNABLE TO BE MAINTAINED.									
DVPR 5312	733JS 17268335	CESSNA 172N				BULKHEAD 05132823	CRACKED LT FWD DOORPOST	8509	10/30/97 97ZZZX4756
INSPECTION REVEALED A CRACK IN THE LOWER HINGE LOCATION ON THE LEFT HAND DOORPOST. CRACK WAS APPROXIMATELY 1.25 INCHES LONG. DOORPOST WAS REPLACED. NOTE: CRACK ORIGINATES AT AFT HINGE ATTACH HOLE AND PROGRESSES IN EITHER DIRECTION.									
DVPR 5312 *****	734EQ 17268800	CESSNA 172N				BULKHEAD 051300634	CRACKED LT FWD DOORPOST	8176	10/30/97 97ZZZX4760
INSPECTION REVEALED A CRACK IN THE LOWER DOOR HINGE LOCATION ON THE LEFT HAND DOORPOST. CRACK WAS APPROXIMATELY 1.6250 INCHES LONG. CRACK ORIGINATES AT AFT HINGE ATTACH HOLE AND PROGRESSES IN EITHER DIRECTION. DOORPOST WAS REPLACED.									
DVPR 5312	734FX 17268829	CESSNA 172N				BULKHEAD 05132823	CRACKED LT FWD DOORPOST	8314	10/30/97 97ZZZX4759
DURING TROUBLESHOOTING ON THE LEFT HAND DOOR HOLD OPEN STOP, NOTICED WHEN THE DOOR WAS OPENED AGAINST THE STOP, THE BOTTOM FUSELAGE DOOR HINGE ATTACHMENT MOVED. FURTHER INSPECTION REVEALED A CRACK IN THE AFT FORWARD DOORPOST APPROXIMATELY 2.75 INCHES LONG NECESSITATING REPLACEMENT OF THE DOOR POST. AN INSPECTION OF THE FLEET OF 172'S FOUND THE SAME CONDITION ON 6 OUT OF 9 AIRCRAFT. M.D. REPORTS WILL BE FILED ON EACH.									
7820	2642L 17255842	CESSNA 172H				MUFFLER	CRACKED LT EXH RISER	2800	10/18/97 97ZZZX4751
BOTH MUFFLERS WERE FOUND CRACKED AT RISERS AND BAFFLES WERE COLLAPSED AND HAD BEEN FOR SOME TIME. THIS WOULD NOT ALLOW ENGINE TO DEVELOP FULL POWER. FOUND DURING ANNUAL INSPECTION.									
7820	2642L 17255842	CESSNA 172H				MUFFLER	CRACKED RT EXH RISER	2800	10/18/97 97ZZZX4750
BOTH MUFFLERS WERE FOUND CRACKED AT RISERS AND BAFFLES WERE COLLAPSED AND HAD BEEN FOR SOME TIME. THIS WOULD NOT ALLOW ENGINE TO DEVELOP FULL POWER. FOUND DURING ANNUAL INSPECTION.									
3222 *****	3281S 18255781	CESSNA 182G				TORQUE LINK 0543034497	CRACKED NLG	4848	11/5/97 97ZZZX4798
DURING AN ANNUAL INSPECTION, THE UPPER TORQUE LINK OF THE NOSE LANDING GEAR WAS FOUND CRACKED IN THE RADIUS OF THE UPPER FORGED RIB ADJACENT TO THE ATTACH BOLT HOLE. BOTH SIDES WERE CRACKED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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DVPR 3243		CESSNA 210N				PLUG 0541139	BROKEN BRAKE VENT PLUG		10/29/97 97ZZZX4753
PART RECEIVED FROM STOCK. WHEN SCREWED INTO MASTER CYLINDER BY HAND, SIDE OF PLUG BROKE OFF. A SECOND PLUG WAS INSTALLED BY HAND AND IT BROKE IN THE SAME AREA. THESE PLUGS ARE MADE FROM BRITTLE PLASTIC AND WERE SUPPLIED BY CESSNA.									
5711	121RJ 21059735	CESSNA T210L				CARRY THRU SPAR	CORRODED CABIN OVERHEAD		10/1/97 97ZZZX4793
INSPECTION FOUND CABIN OVERHEAD CARRY-THROUGH SPAR CORRODED WHERE FRESH AIR DUCT PASSES THROUGH. SUSPECT DISSIMILAR METAL CONTACT.									
B3OR 7810	9403Y 21064498	CESSNA T210N				EXHAUST K1250860M203	CRACKED TURBO INLET	230	10/29/97 97ZZZX4778
***** WHILE CHANGING A CRACKED TURBO INLET (PN K1250860M-105), THE HEAT EXCHANGER WAS FOUND CRACKED. OUT OF 4 AIRCRAFT WITH THIS STC EXHAUST, ALL 4 HAVE HAD THE TURBO INLETS CRACK. THE REPLACEMENTS ARE ASSEMBLED DIFFERENTLY, APPARENTLY TO PREVENT THIS PROBLEM. THE HEAT EXCHANGER IS THE SECOND ONE FOUND CRACKED AT THE WELD LINE WHERE THE NR 6 CYLINDER RISER ATTACHES.									
8120	761KC 21062308	CESSNA T210M			GARRTT	TURBOCHARGER 406C109005	LOOSE CENTER SECT	1438	10/16/97 97ZZZX4763
AT ANNUAL INSPECTION, NOTED THE CENTER SECTION WAS LOOSE AT THE BOLTS THAT HOLD THE CENTER SECTION TO THE HOT SIDE OF THIS UNIT. THIS HAS BEEN LEAKING AS THERE WAS EVIDENCE OF EXHAUST IN THIS AREA. IT IS ASSUMED THESE BOLTS WERE LEFT LOOSE DURING INSTALLATION TO ALLOW TURBO BOLTS TO ALIGN DURING INSTALLATION. SUBMITTER STATED ALL BOLTS AND NUTS SHOULD BE CHECKED FOR TORQUE BEFORE SAFTEYING AND/OR BENDING OVER LOCK TABS.									
B3OR 3242	98834 310R0603	CESSNA 310R			PARKERHAN 99448	LINING 06603300	WORN LT MLG BRAKE		10/29/97 97ZZZX4768
***** BRAKE LINING WORN THIN. CALIPER PISTON OUT TOO FAR ALLOWING FLUID TO BYPASS O-RINGS OR FLUID LEVEL WAS LOW FROM CALIPER LEAK AND NO FLUID IN MASTER CYLINDER. O-RINGS LOOKED GOOD.									
3240	3246M 402C0294	CESSNA 402C				BRAKE LINE 581710240	FAILED LT MASTER CYL	15038	9/22/97 97ZZZX4797
THE LT MASTER CYLINDER BRAKE LINE CRACKED BECAUSE CONTINUAL FLEXING DURING BRAKING CAUSED THE LINE TO CRACK AT THE 180-DEGREE END.									
CWQR 5753	211QS 0011	CESSNA S550				BEARING CC50380	WORN FLAP ATTACH		11/4/97 97ZZZX4775
DURING AIRCRAFT INSPECTION, DETERMINED THE FLAP ATTACH BEARINGS WERE WORN. RETRIEVED TWO NEW BEARINGS FROM STOCK. INSPECTED NEW BEARINGS. ONE BEARING HAD COTTER KEY HOLE DRILLED TOO FAR DOWN ON THREADED PORTION OF SHANK TO ALLOW PROPER ATTACHMENT OF NUT. THE OTHER BEARING HAD TWO COTTER KEY HOLES DRILLED IN IT, PERPENDICULAR FROM EACH OTHER.									
CWQR 5753	211QS 0011	CESSNA S550				BEARING CC50380	MISMANUFACTURED FLAP ATTACH		11/4/97 97ZZZX4776
DURING AIRCRAFT INSPECTION, DETERMINED THE FLAP ATTACH BEARINGS WERE WORN. RETRIEVED TWO NEW BEARINGS FROM STOCK. INSPECTED NEW BEARINGS. ONE BEARING HAD COTTER KEY HOLE DRILLED TOO FAR DOWN ON THREADED PORTION OF SHANK TO ALLOW PROPER ATTACHMENT OF NUT. THE OTHER BEARING HAD TWO COTTER KEY HOLES DRILLED IN IT, PERPENDICULAR FROM EACH OTHER.									
2435	31SG 5250207	CESSNA 525				BEARING	FAILED START/GEN	100	10/28/97 97ZZZX4826
PILOT REPORTED RT GENERATOR FAILURE. UPON INITIAL INSPECTION, THE RT STARTER/GENERATOR HAD A STRONG BURNT SMELL. AFTER FURTHER INSPECTION, DISCOVERED THE ARMATURE SUPPORT BEARING HAD FAILED AND PIECES OF THE BEARING CAGE HAD SHORTED THE STARTER/GENERATOR COMPONENTS.									
3250	3426X 3399	MOONE M20L				STEERING SYSTEM	FAILED RUD-NLG		10/20/97 97ZZZX4799
***** DURING TOUCH AND GO LANDING, LOST CONTROL OF ACFT FOLLOWING TOUCH DOWN. ACFT RECEIVED SUBSTANTIAL DAMAGE AFTER VEERING TO LEFT. NLG BROKE AND RT MLG COLLAPSED. IT IS BELIEVED RUDDER NLG STEERING SYSTEM BOLT SHEARED.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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B2ER 3230 *****	9392N 28R35102	PIPER PA28R200				FITTING 6703102	BROKEN RT MLG RETRACT	3774	10/2/97 97ZZZX4766
WHEN INSPECTING LANDING GEAR FOUND FITTING-GEAR RETRACTION, RIGHT AND LEFT, BROKEN WHERE ROD IS MOUNTED. WHEN THIS PART IS BROKEN IT PREVENTS LANDING GEAR TO EXTEND AND LOCK.									
B2ER 3230	9392N 28R35102	PIPER PA28R200				FITTING 6703103	BROKEN LT MLG RETRACT	3774	10/2/97 97ZZZX4765
WHEN INSPECTING LANDING GEAR FOUND FITTING-GEAR RETRACTION, RIGHT AND LEFT, BROKEN WHERE ROD IS MOUNTED. WHEN THIS PART IS BROKEN IT PREVENTS LANDING GEAR TO EXTEND AND LOCK.									
5711	33810 287515303	PIPER PA28151				FITTING 6244802	CORRODED REAR SPAR		10/17/97 97ZZZX4754
DURING INSPECTION PER SB 977 FOUND REAR SPAR CARRY THRU LOWER FITTING (LEFT) BADLY CORRODED. REPLACED PART.									
FFSA 7120	7164D 318052013	PIPER PA31350				BOLT LW315444	FAILED ENG MOUNT	1315	11/4/97 97ZZZX4758
LOWER RIGHT HAND ATTACH BOLT HAD LOOSENED AND VIBRATED UNTIL THE NUT AND COTTER PIN WORE OUT AND CAME OFF. BOLT THEN FELL OUT.									
7810 *****	7325L 317400206	PIPER PA31P				BRACKET 4701402	FAILED RT EXHAUST		11/1/97 97ZZZX4819
DURING TAKEOFF, RT TAILPIPE FELL OFF AIRCRAFT. EXHAUST BURNED A HOLE IN LOWER COWL. INVESTIGATION FOUND ISOLATOR BRACKETS BROKEN, AND ALL EXHAUST SLIP JOINTS LOOSE. SUSPECT LOOSE JOINTS CAUSED VIBRATION THAT BROKE ISOLATOR BRACKET. SUBMITTER RECOMMENDS THE EXHAUST SYSTEM BE PRESSURE TESTED TO FIND LOOSE SLIP JOINTS.									
8120	7164D 318052013	PIPER PA31350	LYC LTIO540J2BD		LW18302	BOLT LW31S444	FAILED LEFT ENGINE		11/5/97 97ZZZX4802
TURBOCHARGER MOUNT LOWER RIGHT HAND ATTACH BOLT LOOSENED AND VIBRATED UNTIL THE NUT AND COTTER KEY FAILED. BOLT THEN DEPARTED THE ENGINE.									
2410 *****	415WR 3246072	PIPER PA32R301				BELT	FAILED ALT DRIVE	160	11/1/97 97ZZZX4818
AIRCRAFT ON IFR FLIGHT PLAN LOST ALL ELECTRICAL POWER. LANDED WITHOUT ACCIDENT. INSPECTION REVEALED THE ALTERNATOR IDLE PULLEY WHICH TENSIONS THE BELT WAS CHAFING ON A COWLING STIFFENER CAUSING THE BELT TO TEAR. THIS IS A NEW AIRCRAFT, TOTAL TIME, 159.8 HOURS. PIPER SERVICE CENTER STATED A SL WAS ISSUED TO RELOCATE THE STIFFENER, BUT THIS AIRCRAFT WAS OVERLOOKED AT THE DISTRIBUTER.									
2430	7693F 347770068	PIPER PA34200T				SWITCH 587837	FAILED BATTERY MASTER		10/15/97 97ZZZX4761
MASTER SWITCH 'OPENED' INTERNALLY CAUSING COMPLETE ELECTRICAL FAILURE DURING FLIGHT. GEAR WAS EXTENDED BY EMERGENCY MEANS AND LANDING WAS NORMAL. NEW MASTER SWITCH CORRECTED PROBLEM.									
3230	723KD 447995274	PIPER PA44180				SWITCH 8640902	SEPARATED RT MLG DOWNLOCK	6465	10/9/97 97ZZZX4757
DOWN LIMIT SWITCH INTERIOR SEPARATED FROM SWITCH HOUSING, WIRES BECAME JAMMED UNDER DOWNLOCK HOOK CAUSING INCOMPLETE ENGAGEMENT OF HOOK, WHEN SUBJECTED TO SIDELOAD HOOKS DISENGAGED AND GEAR RETRACTED.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

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HEEA 6320	3207T 2441	AEROSP SA315B				GEARBOX 319A62000003	MAKING METAL M/R GR BOX	7154	11/5/97 HEEA0011797
MAIN GR BOX MAKING METAL.									
KY1R 7170	95MD 6320	AEROSP SA365N1				VALVE 0174078010	LEAKS START DRAIN	4174	10/14/97 97ZZZX4809
START DRAIN VALVE UNIT LEAKS. REPAIR AS NECESSARY.									
KY1R 7170	38MD 6335	AEROSP SA365N1				VALVE 0174078010	LEAKS START DRAIN	831	10/19/97 97ZZZX4831
DRAIN VALVE LEAKS AT SEAMS.									
HQEA 5511	100S 7644	AGUSTA A109C				RIB 1090200059	BROKEN LT HORIZ STAB	1697	10/21/97 97ZZZX4829
RIB IS BROKEN. THE LEAD TIP WEIGHT THAT IS BOLTED TO THE OUTBOARD RIB (APPROXIMATELY 4 POUNDS), WAS FOUND RATTLING AROUND IN THE LEFT HORIZONTAL STABILIZER TIP CAP. FURTHER INVESTIGATION REVEALED THE TIP WEIGHT, WHICH IS SECURED TO THE OUTBOARD RIB WITH BOLTS AND ALUMINUM RIVNUTS, PULLED THE RIVNUTS OUT OF THE RIB.									
GDMR 6410	58HJ 30314	BELL 205A1				BLADE 212010750105	FAILED T/R BLADE TIP		10/23/97 97ZZZX4824
WHILE CARRYING OUT OPERATIONS ON THE AFTERNOON OF 10-23-97, PILOT REPORTED INCREASE OF VIBRATION WHILE IN-FLIGHT RETURNING TO LANDING SITE. AIRCRAFT WAS SHUT DOWN. ON EXAMINATION OF TAIL ROTOR, INSIDE PART OF TIP WAS FOUND MISSING. NO OTHER DAMAGE WAS APPARENT AND SUBSEQUENT TAIL ROTOR REPLACEMENT AND BALANCING CURED PROBLEM. (X)									
GDMA 7261	58HJ 30314	BELL 205A1	LYC T5313B			OIL PUMP 13002124	FAILED ENGINE OIL	4346 1005	10/18/97 97ZZZX4823
PILOT REPORTED LOSS OF OIL PRESSURE IN-FLIGHT. THE FLIGHT WAS TERMINATED IMMEDIATELY AND THE ENGINE WAS SHUT DOWN. UPON INVESTIGATION, THE ENGINE OIL PUMP DRIVESHAFT WAS FOUND BROKEN. WHEN PUMP WAS REMOVED, A PIECE OF GEAR TOOTH FELL FROM PUMP OIL PASSAGE. GEAR PIECE IS FOREIGN TO THE OIL PUMP. AT THIS TIME, IT IS NOT KNOWN WHERE THE GEAR TOOTH CAME FROM.									
HEEA 2330	5007N 45184	BELL 206L1				AMPLIFIER AA20030	OVERHEATS PUB ADDRESS		10/22/97 HEEA0011664
PA AMPLIFIER GETS EXCESSIVELY HOT; THEN SHUTS DOWN.									
HEEA 2436	2268G 3603	BELL 206B3				REGULATOR 15891F	DEFECTIVE DC SYS		11/7/97 HEEA0011829
GENERATOR WILL NOT RESET. REGULATOR POTENTIOMETER IS CORRODED AND DUAL RESISTOR IS CRACKED AND CHIPPED.									
HEEA 2436	5019F 45244	BELL 206L1				REGULATOR 206075447007	FAILED DC VOLTS		10/22/97 HEEA0011632
VOLTAGE REGULATOR FAILED. NO VOLTAGE OUTPUT.									
HEEA 2436	3108E 51498	BELL 206L3				REGULATOR 206075447007	FAILED DC VOLTS		10/22/97 HEEA0011692
REGULATOR WILL NOT REGULATE TRIPS ON OVER VOLTAGE.									
HEEA 2436	3207Q 51540	BELL 206L3				REGULATOR 206075447007	FAILED DC VOLTS		10/22/97 HEEA0011637
GENERATOR DOES NOT COME ON LINE. VOLTAGE REG DEFECTIVE									

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HEEA 2562	2759U 45267	BELL 206L1			NARCO	ELT ELT910	FAILED COCKPIT		10/22/97 HEEA0011675
	ELT ACTIVATION LIGHT STAYS ON.								
HEEA 2562	6251Y 51556	BELL 206L3			NARCO	ELT ELT10	INOPERATIVE COCKPIT		11/5/97 HEEA0011780
	ELT INOPERATIVE, BATTERY DEAD.								
HEEA 2820	2253E 45758	BELL 206L1				VALVE 206063640101	DEFECTIVE FUEL SYS		11/5/97 HEEA0011770
	6 TO 10 SEC DELAY INTERMITTENTLY WHEN SWITCH IS ACTIVATED. SENT TO BELL HELICOPTER TEXTRON FOR INSPECTION AND REPAIR.								
HEEA 2820	8589X 51487	BELL 206L3				CARTRIDGE 2C271	INOPERATIVE FUEL SYS		10/22/97 HEEA0011697
	CARTRIDGE INOPERATIVE.								
HEEA 2841	10778 45391	BELL 206L1				INDICATOR 206063633001	STICKS FUEL QTY		10/22/97 HEEA0011711
	FUEL QTY GAUGE STICKS.								
HEEA 3310	8588X 51486	BELL 206L3				POWER SUPPLY 222375012101	INOPERATIVE PILOT INST		10/22/97 HEEA0011669
	POWER SUPPLY INOPERATIVE.								
HEEA 3340	50034 45167	BELL 206L1			WHELEN	POWER SUPPLY A490A	FAILED STROBE		11/6/97 HEEA0011812
	POWER SUPPLY NO OUTPUT.								
HEEA 3340	3904L 45597	BELL 206L1			WHELEN	POWER SUPPLY A490ATSDF1428	FAILED STROBE		11/6/97 HEEA0011807
	STROBE WILL NOT FLASH.								
HEEA 3340	979BH 51403	BELL 206L3			WHELEN	POWER SUPPLY A490A	WEAK STROBE LIGHT		11/6/97 HEEA0011802
	POWER SUPPLY WEAK POWER OUTPUT.								
HEEA 3340	8589X 51487	BELL 206L3			WHELEN	POWER SUPPLY A413A	FAILED STROBE		11/6/97 HEEA0011808
	POWER SUPPLY INOPERATIVE.								
HEEA 3340	49EA 51507	BELL 206L3			WHELEN	POWER SUPPLY A490A	FAILED STROBE		11/6/97 HEEA0011804
	STROBE WILL NOT FLASH TUBE.								
HEEA 3340	8592X 51508	BELL 206L3			WHELEN	POWER SUPPLY A413AHDADF28V	FAILED STROBE		11/6/97 HEEA0011811
	POWER SUPPLY OUTLET NR2 DOESN'T WORK NR1.								

***** DENOTES SIGNIFICANT OCCURRENCE

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HEEA 3340	3116P 51530	BELL 206L3			WHELEN	POWER SUPPLY A490ATSDF	FAILED STROBE		11/6/97 HEEA0011806
STROBE LIGHT INOPERATIVE.									
HEEA 3340	3207Q 51540	BELL 206L3			WHELEN	POWER SUPPLY A490A	FAILED STROBE		11/6/97 HEEA0011805
STROBE DOES NOT FLASH.									
HEEA 3340	53119 51575	BELL 206L3			WHELEN	POWER SUPPLY A490A	INOPERATIVE STROBE LIGHT		11/6/97 HEEA0011803
POWER SUPPLY INOPERATIVE.									
HEEA 3413	21240 45647	BELL 206L1				INDICATOR 206070278005	STICKS COCKPIT VSI		10/22/97 HEEA0011630
NEEDLE STICKS AROUND 500 FEET GOING UP.									
HEEA 3413	515KA 51048	BELL 206L3				INDICATOR 212070239001	FAILED COCKPIT VSI		11/7/97 HEEA0011840
RATE OF CLIMB INDICATOR FAILED. CANNOT GET INDICATOR TO ZERO.									
HEEA 3414	45RP 45521	BELL 206L1				INDICATOR 8000	FLUCTUATES AIR SPEED		11/5/97 HEEA0011790
AIR SPEED NEEDLE FLUCTUATES IN FLIGHT.									
HEEA 3416	21240 45647	BELL 206L1				ALTIMETER 5934D1	ERROR COCKPIT		10/22/97 HEEA0011631
ALTIMETER HAS EXCESSIVE CASE LEAKAGE AND FRICTION ERROR.									
HEEA 3416	21240 45647	BELL 206L1				ALTIMETER 1330061	CORRODED COCKPIT		10/22/97 HEEA0011638
EXCESSIVE FRICTION ERROR AND CORRODED ON HOUSING.									
HEEA 3416	515KA 51048	BELL 206L3			RT220	ALTIMETER 4004437903	FAILED COCKPIT		11/7/97 HEEA0011848
FAILED 1.1 ON SST ALTIMETER VALID LIGHT DOES NOT STAY ON.									
HEEA 3424	363BH 51345	BELL 206L3				INDICATOR 206070274005	INOPERATIVE COCKPIT T&B		10/22/97 HEEA0011704
INDICATOR INOPERATIVE.									
HEEA 3440		BELL 206L3				RNAV 6223767001	DEFECTIVE COCKPIT		11/5/97 HEEA0011800
RNAV BUTTON STICKS.									
HEEA 5313	5007Y 45192	BELL 206L1				LONGERON 206031314038S	DEFECTIVE FUSELAGE		10/31/97 HEEA0011733
ANGLE OF BEND ON LONGERON AFT END NOT CORRECT. ORIGINAL PART 55 DEGREES. NEW PART 69 DEGREES.									

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HEEA 5320	3892R 45594	BELL 206L1				PANEL ASSY 206033322003A	CORRODED FUSELAGE		11/7/97 HEEA0011837
PANEL ASSY CORRODED AND SEPARATED.									
HEEA 5320	6160Y 51609	BELL 206L3				SHELL ASSY 206033100291A	DENTED FUSELAGE		10/22/97 HEEA0011687
SHELL ASSY DENTED AND SEPARATED. SENT TO HELICOMB INTERNATIONAL FOR INSPECTION AND REPAIR.									
HEEA 5330	5007Q 45187	BELL 206L1				PANEL 206033201249	CORRODED ROOF		10/22/97 HEEA0011686
ROOF PANEL CORRODED AND SEPARATED.									
HEEA 5510	1078C 45392	BELL 206L1				STABILIZER ASSY 206023119151	SEPARATED LT AFT		11/7/97 HEEA0011839
STABILIZER ASSY SEPARATED L/H AFT.									
HEEA 5510	6603X 51412	BELL 206L3				STABILIZER 206023119151A	DENTED HORIZ	8218	10/22/97 HEEA0011699
STAB ASSY DENTED BEYOND LIMITS.									
HEEA 5520	6161A 51611	BELL 206L3				ELEVATOR ASSY 206023119159	CORRODED RT ELEV		10/22/97 HEEA0011634
RT ELEV ASSY CORRODED BEYOND LIMITS.									
6220 *****	937R 51255	BELL 206L3				BEARING 206011118001	DEFECTIVE M/R GRIP		11/3/97 97ZZZX4833
FOUR NEW M/R GRIP BEARINGS WERE RECEIVED FROM BELL HELICOPTER. A MECHANIC CLEANED THEM PRIOR TO PACKING WITH GREASE AND ON ONE BEARING FOUND THAT ONE ROLLER WAS MISSING. A SECOND BEARING HAD 7 ROLLERS THAT WOULD NOT ROLL IN THE CAGE (APPROXIMATELY 1 INCH SPAN). THIS SHOWS THE IMPORTANCE OF INSPECTING PARTS PRIOR TO INSTALLING EVEN THOUGH THEY ARE NEW.									
IIFR 6230	374M 4161	BELL 206B3				BEARING 206010443001	FAILED M/R MAST	193	10/23/97 97ZZZX4777
FOUND M/R MAST BEARING INNER RACE BREAKING DOWN.									
HEEA 6240	2770Y 45291	BELL 206L1				INDICATOR 206070265101	FAILED DUAL TACH		11/5/97 HEEA0011781
DUAL TACH HAS SPLIT NEEDLES.									
6320 *****	55TV 3788	BELL 206B3			206040002029	SUNGEAR 20604562101	WORN TRANSMISSION	2998	10/28/97 97ZZZX4822
SPLINES SEVERELY WORN AND 3 CRACKED. SUSPECT CAUSE DUE TO LENGTH OF CALENDAR TIME INSTALLED INDICATING A BREAK DOWN OF THE LUBRICANT. PERIOD OF INSTALLATION WAS 13 YEARS. SUBMITTER RECOMMENDS A CALENDAR LIMITATION OF 4 YEARS AS WELL AS THE EXISTING HOURLY FREQUENCY.									
HEEA 6330	5014V 45217	BELL 206L1				RESTRAINT 206033506101	WORN XMSN		10/22/97 HEEA0011657
XMSN RESTRAINT BOTH BEARINGS WORN.									
HEEA 6330	2764F 45279	BELL 206L1				RESTRAINT 206033506101	WORN XMSN		11/5/97 HEEA0011767
TRANSMISSION RESTRAINT WORN BEARINGS.									

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HEEA 6330	1073W 45386	BELL 206L1				FLEXURE 206033516101	CORRODED M/R GR BOX		11/7/97 HEEA0011841
	FLEXURE CORRODED RUBBER.								
HEEA 6330	6160Z 51610	BELL 206L3				STOP ASSY 206033518007	DETERIORATED M/R XMSN		10/22/97 HEEA0011636
	STOP ASSY RUBBER DETERIORATED.								
HEEA 6710	513EH 45421	BELL 206L1				ACTUATOR 206062721109	FAILED M/R		10/22/97 HEEA0011661
	ACTUATOR WILL NOT ACTUATE.								
HEEA 6710	5744Y 45465	BELL 206L1				ACTUATOR 206062721103	FAILED M/R CONTROL		11/5/97 HEEA0011771
	ACTUATOR WILL NOT RETRACT OR EXTEND.								
HEEA 6710	2251Z 45756	BELL 206L1				ACTUATOR 206062721109	FAILED M/R		10/22/97 HEEA0011707
	ACTUATOR DOES NOT MOVE IN OR OUT.								
7532	37488 2188	BELL 206B	ALLSN 250C20			BLEED VALVE 23053176	STICKING ENGINE	447	10/16/97 97ZZZX4810
	VALVE APPARENTLY IS STICKING IN THE CLOSED POSITION AND DOES NOT OPEN UP WHEN POWER DEMAND IS DECREASED. THIS CREATES A MOMENTARY COMPRESSOR STALL RESULTING IN GUNSHOT TYPE SOUNDS COMING FROM THE EXHAUST ON THE TURBINE.								
HEEA 7714		BELL 206L1				INDICATOR 206070266009	STICKS TACH		10/22/97 HEEA0011641
	INDICATOR NEEDLE STICKS INTERMITTENTLY.								
HEEA 7714	5006F 45181	BELL 206L1				TACH GEN 206076373001	WORN ENGINE		10/22/97 HEEA0011703
	TACH GEN WORN. SHAFT LOOSE AT LARGE END, CLICKS WHEN TURNED.								
HEEA 7722	2759U 45267	BELL 206L1				INDICATOR 206075188005	DEFECTIVE COCKPIT		10/22/97 HEEA0011668
	BEZEL LOOSE FROM GAUGE.								
HEEA 7722	513EH 45421	BELL 206L1				INDICATOR 35712519129	DEFECTIVE COCKPIT TOT		10/22/97 HEEA0011633
	TOT INDICATOR READS 10 DEGREES HIGH.								
HEEA 7722	3108E 51498	BELL 206L3				INDICATOR 206375007103	FAILED ENG TOT		10/22/97 HEEA0011667
	TOT NEEDLES WILL NOT INDICATE.								
HEEA 7722	3116L 51529	BELL 206L3				INDICATOR 206375007103	STICKS TOT		11/5/97 HEEA0011776
	TOT NEEDLE STICKS AT ZERO DEGREE INTERMITTENTLY.								

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HEEA 2840	5736J 31140	BELL 212				TRANSMITTER APTE138100G	ERRATIC FUEL PRESS		10/22/97 HEEA0011680
PRESSURE TRANSMITTER TRANSMITS ERRATIC.									
HEEA 2930	1082G 31109	BELL 212				INDICATOR 124043	STICKS HYD SYS		10/22/97 HEEA0011691
HYD PRESS TEMP. NEEDLE STICKING.									
HEEA 3212	27805 31106	BELL 212				FLOAT BAG 212050207012	UNBONDED FWD RT		10/22/97 HEEA0011662
FLOAT BAG UNBONDED INLET VALVE.									
HEEA 3212	27805 31106	BELL 212				FLOAT BAG 212050207103	LEAKING FWD LT		10/22/97 HEEA0011663
FLOAT BAG LEAKING INLET VALVES.									
HEEA 3213	27805 31106	BELL 212				CAP ASSY 212030437007	DEFECTIVE SKID AFT		10/22/97 HEEA0011656
CAP ASSY RUBBER CAME OFF.									
HEEA 3423	102PH 30899	BELL 212				COMPENSATOR 2593379001	SHORTED COMPASS		10/22/97 HEEA0011695
COMPENSATOR SHORTED OUT INTERNALLY.									
HEEA 5330	27805 31106	BELL 212				PANEL ASSY 212030378003	DAMAGED CROSSTUBE AREA		10/22/97 HEEA0011682
PANEL ASSY BENT AND CRACKED AT CROSSTUBE AREA.									
HEEA 6220	27805 31106	BELL 212				DAMPER ASSY 204010937009	LEAKING M/R		11/5/97 HEEA0011785
DAMPER ASSY HAS NO DAMPENING ACTION AND LEAKING.									
HEEA 6220	27805 31106	BELL 212				DAMPER ASSY 204010937009	DEFECTIVE M/R		11/5/97 HEEA0011784
DAMPER ASSY HAS NO DAMPENING ACTION AND LEAKING.									
HEEA 6220	1079U 31122	BELL 212				DAMPER 204031920003	WORN M/R		10/22/97 HEEA0011722
DAMPER BEARINGS WORN.									
HEEA 2212	6957Y 28139	BELL 214ST				SENSOR ALTITUDE 222305005101	FAILED AUTO FLT		10/22/97 HEEA0011648
AIRCRAFT DIVES WHEN ALT HOLD ENGAGED.									
HEEA 2430	6957Y 28139	BELL 214ST				RELAY 214175132103	OPEN BATTERY		11/7/97 HEEA0011843
24V TO BATT NR2 CONTACT OPEN.									

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HEEA 2432	8045T 28101	BELL 214ST				CHARGER 214175379103	FAILED BATTERY		11/5/97 HEEA0011772
BATTERY CHARGER WILL NOT TOP CHARGE.									
HEEA 2432	8045T 28101	BELL 214ST				CHARGER 214175379103	FAILED BATTERY		10/22/97 HEEA0011679
CHARGER NOT TOP CHARGING BATTERY.									
HEEA 2435	8045T 28101	BELL 214ST				STARTER 214060056103	FAILED ENGINE	1691	10/29/97 HEEA0011727
STARTER WORN BRUSHES AND CLUTCH HOUSING IS CRACKED.									
HEEA 2435	5748M 28102	BELL 214ST				STARTER 214060056103	FAILED ENGINE	1295	10/22/97 HEEA0011724
STARTER ENGAGE LIGHT COMES ON BUT STARTER WILL NOT ENERGIZE.									
HEEA 2435	3897N 28106	BELL 214ST				STARTER 214060056103	FAILED ENGINE		10/29/97 HEEA0011728
STARTER WILL NOT SHUT OFF.									
HEEA 2435	6957Y 28139	BELL 214ST				STARTER 214060056103	FAILED ENGINE	1531	10/22/97 HEEA0011683
STARTER KICKS GENERATOR OFF ON START UP.									
HEEA 2913	8045T 28101	BELL 214ST				PUMP 214076334105	FAILED HYD SYS		10/22/97 HEEA0011670
LOSS OF UTILITY HYD SYSTEM PRESSURE IN FLIGHT.									
HEEA 3120	6957Y 28139	BELL 214ST				CLOCK 212075514001	INTERMITTENT COCKPIT		10/22/97 HEEA0011688
CLOCK INTERMITTENT.									
HEEA 3421	5748M 28102	BELL 214ST				GYROSCOPE 214175241101	FAILED COCKPIT		10/22/97 HEEA0011673
AIRCRAFT PORPOISES ROLLS SIDE TO SIDE.									
HEEA 3421	6957Y 28139	BELL 214ST				GYROSCOPE 214175241101	DEFECTIVE COCKPIT ATTITUDE		10/22/97 HEEA0011672
GYRO SLOW TO RESPOND.									
HEEA 6240	3897N 28106	BELL 214ST				DETECTOR 214074280105	FAILED M/R RPM		10/22/97 HEEA0011646
RPM DETECTOR INOPERATIVE.									
HEEA 6330	5748M 28102	BELL 214ST				TORSION ARM 214031614125	CRACKED M/R XMSN		11/5/97 HEEA0011766
TORSION ARM ASSY RUBBER CRACKED.									

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HEEA 6330	59805 28141	BELL 214ST				TORSION ARM 214031614125	TORN M/R XMSN		11/5/97 HEEA0011773
TORSION ARM BEARINGS TORN.									
HEEA 6420	5748M 28102	BELL 214ST				HUB 214011801127	WORN T/R	2854	11/4/97 HEEA0011760
WORN FEATHERING BEARINGS AND ROUGH TRUNNION BEARING. REPAIRED AND INSPECTED BY PHI.									
NXTA 7320	142CF 47531	BELL 222U	LYC LTS101750C1			TUBE 418184001	CRACKED FC PY LINE		10/11/97 97ZZZX4835
REPLACED CRACKED PY LINE AT FUEL CONTROL UNIT.									
HEEA 6230	230UN 23009	BELL 230			222040002115	MAST POLE ASSY 222040002107	CORRODED M/R	4017	11/7/97 HEEA0011846
MAST POLE ASSY CORRODED AND ALSO TOP SPLINE RUSTY AND WORN.									
HEEA 6230	230UN 23009	BELL 230				SWASHPLATE 222010400127	WORN M/R	1943	11/7/97 HEEA0011845
SWASHPLATE ASSY BALL ASSY P/N 222-010-405-115 HAS LARGE GOUGES IN GUIDE SLOTS. SUPPORT ASSY ALSO HAS LARGE AREA WHERE THE PROTECTIVE ANODIZED SURFACES ARE REMOVED. (BALL ASSY IS WORN AND LEVER HARDWARE IS RUSTY)									
HEEA 3340	407PH 53003	BELL 407				POWER SUPPLY A490A	FAILED STROBE		11/7/97 HEEA0011844
POWER SUPPLY INOPERATIVE. NO POWER OUTPUT.									
HEEA 6320	437PH 53072	BELL 407			407040006107	SEAL ASSY 206040156001	LEAKING M/R GR BOX		10/31/97 HEEA0011735
SEAL ASSY LEAKING.									
HEEA 6321	427PH 53059	BELL 407				ROTOR BRAKE 206340301103	FAILED M/R	717	10/31/97 HEEA0011741
ROTOR BRAKE PUCK SEPARATED.									
HEEA 6321	407MM 53060	BELL 407				ROTOR BRAKE 206340301103	FAILED M/R		10/31/97 HEEA0011751
ROTOR BRAKE PUCK MISSING.									
HEEA 6420	57416 53070	BELL 407			407012101105	BEARING 406312100101	FAILED T/R	992	10/22/97 HEEA0011671
INBOARD BEARINGS BEING DAMAGED EXCEEDING LIMITS AS PER BHT 407MM VOLUME 1 (REV. 4, 12-16-96). REPLACED TWO EACH BEARINGS.									
HEEA 6520	447PH 53114	BELL 407			406040400115	SEAL 406040453101	DEFECTIVE T/R GR BOX	701	11/4/97 HEEA0011761
REPLACE SEAL AND PACKINGS.									
HEEA 7120	417PH 53038	BELL 407				BIPOD MOUNT 407060111101	WORN ENGINE		10/31/97 HEEA0011753
BIPOD MOUNT WORN BEARINGS.									

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HEEA 7712	407MM 53060	BELL 407				INDICATOR 407375003107	FAILED ENG TORQUE		10/31/97 HEEA0011740
TORQUE INDICATOR SHOWS NO DISPLAY.									
HEEA 7714	402PH 53159	BELL 407				INDICATOR 407375002103	FAILED ENG NG	194	10/31/97 HEEA0011743
NG INDICATOR FAILED. ROM, RAM, AND FEPROM FAILURE HAS BEEN DETECTED.									
HEEA 7933	402PH 53159	BELL 407				INDICATOR 407375005101	FAILED OIL PRESS/TEMP	194	10/31/97 HEEA0011757
OIL PRESSURE/TEMP DROPS TO ZERO INTERMITTENTLY, WILL NOT COME BACK ON LINE WHEN CIRCUIT BREAKER IS CYCLED.									
HEEA 2210	1202T 33112	BELL 412				TARSYN 2593996333	DEFECTIVE COCKPIT		11/7/97 HEEA0011828
TARSYN DOES NOT STABILIZE. FAILED TEST 3.1 ON SST BENCH.									
HEEA 2210	6559Z 36019	BELL 412				TARSYN 2593996333	FAILED COCKPIT DG		11/7/97 HEEA0011827
DIRECTIONAL GYRO WILL NOT TURN COMPASS CARD ON HSI AND OFF FLAG WILL NOT PULL ON HSI.									
HEEA 2211	2014K 33020	BELL 412				COMPUTER 4025008918	FAILED AFCS		10/22/97 HEEA0011650
AFCS COMPUTER FAILED 31.2 AND FOLLOWING TEST ON SST.									
HEEA 2422	293CA	BELL 412				INVERTER 412075101101	FAILED AC SYS		11/5/97 HEEA0011777
INVERTER WILL NOT COME ON LINE UNLESS BOTH GENERATORS ARE ON LINE.									
HEEA 2432	2298Z 33077	BELL 412				BATTERY 39563001	DEFECTIVE DC SYS	1833	11/7/97 HEEA0011849
BATTERY PACK WILL NOT PASS CAPACITY TEST.									
HEEA 2432	6559Z 36019	BELL 412				BATTERY 39563001	FAILED DC SYS	3353	11/7/97 HEEA0011850
BATTERY PACK WILL NOT ACCEPT CHARGE.									
HEEA 2562	5759N 33002	BELL 412			NARCO	ELT ELT910	MALFUNCTIONED COCKPIT		10/22/97 HEEA0011674
ELT GOES OFF INTERMITTENTLY.									
HEEA 2822	1202T 33112	BELL 412				BOOST PUMP 1C641	DEFECTIVE FUEL SYS		10/22/97 HEEA0011721
BOOST PUMP LOW PRESSURE.									
HEEA 2840	3893N 33010	BELL 412				PRESSURE SWITCH 1103P0553	FAILED AUX TANK		10/22/97 HEEA0011684
AUX. TANK TRANSFER PUMP SHUTS OFF AT VARIOUS FUEL LEVELS. SEN									

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HEEA 2844	293CA	BELL 412				INDICATOR 124044	DEFECTIVE FUEL PRESS		10/22/97 HEEA0011676
FUEL PRESS INDICATOR READS LOW OUT OF TOLERANCE.									
HEEA 3212		BELL 412				FLOAT BAG ASSY 412050013115	DEFECTIVE EMERG FLOAT		11/5/97 HEEA0011799
FLOAT BAG STRIP RELEASE VALVE HOLDER - BROKEN PIN ON INLET VALVE. CRACKED TOP OFF OF VALVE FLANGE.									
HEEA 3212	22608 33075	BELL 412				FLOAT BAG 412050013119	RUPTURED EMERG FLOATS		10/22/97 HEEA0011665
FLOAT BAG RUPTURED.									
HEEA 3213	293CA	BELL 412				CAP ASSY FWD 212030436007	WORN FWD SKID		10/22/97 HEEA0011635
FWD CAP ASSY RUBBER DETERIORATED AND WORN.									
HEEA 3213	3893N 33010	BELL 412				CAP ASSY 212030436007	WORN CROSSTUBE FWD		10/22/97 HEEA0011702
CAP ASSY RUBBER WORN AND CRACKED.									
HEEA 3213	3893N 33010	BELL 412				CAP ASSY 212030436007	WORN SKID TUBE FWD		11/7/97 HEEA0011833
CAP ASSY FWD WORN RUBBER.									
HEEA 3213	21498 36003	BELL 412				CAP ASSY 412030437103	WORN SKID AFT		10/22/97 HEEA0011655
CAP ASSY AFT WORN AND DETERIORATED.									
HEEA 3213	21498 36003	BELL 412				CAP ASSY 412030437103	DETERIORATED CROSSTUBE AFT		10/22/97 HEEA0011701
CAP ASSY AFT RUBBER DETERIORATED.									
HEEA 3213	22347 36005	BELL 412				CAP ASSY 412030437103	WORN SKID TUBE AFT		11/7/97 HEEA0011831
CAP ASSY AFT WORN RUBBER.									
HEEA 3213	6559Z 36019	BELL 412				CAP ASSY 412030437103	WORN SKID AFT		10/22/97 HEEA0011654
CAP ASSY WORN AND DETERIORATED.									
HEEA 3414	108X 33115	BELL 412				INDICATOR 412075009105	DEFECTIVE AIR SPEED		10/22/97 HEEA0011690
AIR SPEED INDICATOR READS LOW APPROXIMATELY 15 MPH.									
HEEA 3416	2149S 36002	BELL 412				ENCODER 066306401	FAILED COCKPIT ALT		11/5/97 HEEA0011774
ENCODER INDICATES HIGH OUT OF TOLERANCE ON HIGH END.									

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HEEA 3416	2149S 36002	BELL 412				ALTIMETER 1003511326	DEFECTIVE COCKPIT		10/22/97 HEEA0011642
ALTIMETER HAS LOOSE PARTS INSIDE.									
HEEA 3416	22347 36005	BELL 412				ENCODER 8800	FAILED ALTIMETER		10/22/97 HEEA0011651
ENCODER DOES NOT SUPPLY ANY ALTITUDE READINGS TO TEST BOX.									
HEEA 3420	22347 36005	BELL 412				GYRO 4020936903	DEFECTIVE 3 AXIS GYRO		11/5/97 HEEA0011786
3 AXIS GYRO ERECTS FASTER THAN OTHER INSTALLED TARSYN.									
HEEA 3421	1202T 33112	BELL 412				INDICATOR 222375033103	FAILED COCKPIT ATTITUDE		11/10/97 HEEA0011851
ATTITUDE INDICATOR WON'T STAY ERECT IN AIRCRAFT. TIME SINCE REPAIR 77:05.									
HEEA 3421	107X 33113	BELL 412				INDICATOR 222375033103	FAILED COCKPIT ATTITUDE		11/5/97 HEEA0011787
ATTITUDE INDICATOR INOPERATIVE.									
HEEA 3444	107X 33113	BELL 412				TRANSPONDER 7001840913	FAILED RADIO ALT		10/22/97 HEEA0011706
FAILED TEST 5.2 ON SST AND HAS LOW OUTPUT. SENT TO HONEYWELL, TEXAS FOR INSPECTION AND REPAIR.									
HEEA 3457	2148K 36001	BELL 412			GARMIN	GPS165 0110010600	DEFECTIVE COCKPIT GPS		11/10/97 HEEA0011853
GPS INTERNAL BATTERY NEEDS REPLACEMENT. FOUND MESSAGE TO DISPLAY "EXTERNAL BATTERY OVERTEMP".									
HEEA 5260	2258F 33073	BELL 412				ACTUATOR 212075418105	BROKEN STEP		11/7/97 HEEA0011816
STEP ACTUATOR ROD END BROKEN AND MOTOR WILL NOT TURN.									
HEEA 5260	141PH 33197	BELL 412				ACTUATOR 212075418103	FAILED STEP		10/22/97 HEEA0011708
STEP ACTUATOR INOPERATIVE.									
HEEA 5260	22347 36005	BELL 412				ACTUATOR 212075418105	FAILED STEP		11/7/97 HEEA0011817
STEP ACTUATOR DOES NOT RETRACT.									
HEEA 5320	2261D 33076	BELL 412				PANEL ASSY 205030407569	DENTED FUSELAGE		11/7/97 HEEA0011838
RT PANEL ASSY DENTED BEYOND LIMITS									
HEEA 5320	2261D 33076	BELL 412				PANEL ASSY 412030324108	CORRODED FUSELAGE		11/5/97 HEEA0011791
PANEL ASSY HAS CORROSION BEYOND LIMITS.									

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HEEA 5321	2261D 33076	BELL 412				PANEL 412030339101	SEPARATED FLOOR		11/5/97 HEEA0011792
FLOOR PANEL SEPARATED BEYOND REPAIR.									
HEEA 5330	22608 33075	BELL 412				SKIN 205032615016S	MIS MFG FUSELAGE		11/5/97 HEEA0011764
SKIN WAS NOT MANUFACTURED WIDE ENOUGH FOR PROPER EDGE DISTANCE ON RIVETS. APPROXIMATELY 1/4" SHORTER THAN ORIGINAL SKIN.									
HEEA 5330	6559Z 36019	BELL 412				SKIN 212030099071S	DEFECTIVE TAILBOOM		10/24/97 HEEA0011725
POSITIONED NEW SKIN TO TAILBOOM AND LOCATE AT TOP SECTION NEAR CONTROL TUBE OPENING. FOUND UPPER AREA OF SKIN ROLLED TOO TIGHT. POSITIONED SADDLE SKIN TO WRAP AROUND SKIN P/N 212-030-099-071S AND FOUND 3/8" GAP BETWEEN SADDLE SKIN AND WRAPAROUND SKIN AT AFT ROLL AREA.									
HEEA 6510	2261D 33076	BELL 412				SUPPORT 205030236009	DEFECTIVE T/R DRIVE		10/22/97 HEEA0011723
UNABLE TO MOUNT TAIL ROTOR DRIVE SHAFT SUPPORT ON THE ENGINE DECK BECAUSE OF SMALL RADIUS ON L/H FORWARD PART OF SUPPORT. TAIL ROTOR DRIVE SHAFT SUPPORT HITS TRIPOD FITTING P/N 212-061-102-001 PREVENTING SUPPORT HOLES TO LINE UP WITH DECK HOLES.									
HEEA 6520	107X 33113	BELL 412				CASE ASSY 212040506005	CORRODED T/R GR BOX		11/7/97 HEEA0011820
CASE ASSY CORROSION ON MOUNTING FLANGE.									
HEEA 6520	21498 36003	BELL 412				SLEEVE ASSY 212040452001	CORRODED T/R GR BOX		11/7/97 HEEA0011819
SLEEVE ASSY HAS CORROSION ON FLANGE AREA.									
HEEA 7160	33008 36004	BELL 412				ACTUATOR 209062214001	INOPERATIVE AIR INTAKE		10/22/97 HEEA0011720
ACTUATOR INOPERATIVE.									
HEEA 7250	5759N 33002	BELL 412	PWA PT6T3B			POWER SECTION 3017600	FAILED ENGINE	11978	10/22/97 HEEA0011714
N2 POWER SECTION DROPPED OFF LINE UPON LANDING. CANNOT ROTATE N2: N1 TURNS FREELY.									
HEEA 7250	107X 33113	BELL 412	PWA PT6T3B			POWER SECTION 3017600	CRACKED TURBINE	11668	11/7/97 HEEA0011818
ENGINE POWER SECTION HAS A CRACK IN GENERATOR CASE.									
HEEA 7420	3893N 33010	BELL 412				IGNITER LEAD CH5339901	FRAYED ENGINE		11/5/97 HEEA0011768
SHIELD FRAYED INSULATOR MISSING AT IGNITOR END.									
HEEA 7420	3893S 33022	BELL 412				IGNITER LEAD CH5339901	INOPERATIVE ENGINE		11/5/97 HEEA0011769
IGNITER LEAD INOPERATIVE.									
HEEA 7714	5759N 33002	BELL 412				INDICATOR 412075010109	DEFECTIVE TRIPLE TACH		10/22/97 HEEA0011705
TRIPLE TACH READS 2% LOW.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
HEEA 7714	2298Z 33077	BELL 412				INDICATOR 412075010109	MALFUNCTION TRIPLE TACH		10/22/97 HEEA0011694
TRIPLE TACH ALL NEEDLES HAVE STICKY OPERATION DURING FUNCTION CHECK.									
HEEA 7722	108X 33115	BELL 412				TRIM COMPENSATOR 3030083	ERRATIC ENGINE		10/22/97 HEEA0011715
TRIM COMPENSATOR ERRATIC AND INTERMITTENTLY INOPERATIVE.									
HEEA 7810		BELL 412				EJECTOR ASSY 212061201012	CRACKED RT EXH		10/22/97 HEEA0011658
EJECTOR ASSY MOUNT BRACKET IS CRACKED.									
HEEA 7810	5759N 33002	BELL 412				EJECTOR ASSY 212061201012	CRACKED RT EXH		10/22/97 HEEA0011700
EJECTOR ASSY RING CRACKED AT WELDS.									
HEEA 3340	54197 S805	BOLKMS BO105S			WHELEN	POWER SUPPLY A413A	FAILED STROBE LIGHT		11/6/97 HEEA0011810
POWER SUPPLY INOPERATIVE. SHORTED TAILBOOM PLUG.									
HEEA 3423	81832 S828	BOLKMS BO105S				COMPASS KCA0105W	LEAKING COCKPIT		11/7/97 HEEA0011834
MAG COMPASS LEAKING.									
HEEA 3444	137AE S851	BOLKMS BO105S				ANTENNA 071111400	BROKEN RADAR ALTIMETER		11/10/97 HEEA0011854
RADAR ALTITUDE FLUCTUATES ON GROUND. FOUND BNC BROKEN OFF AND GASKET MISSING.									
HEEA 3457	131AE S787	BOLKMS BO105S			GARMIN	GPS 150 0110005400	FAILED COCKPIT GPS	878	11/10/97 HEEA0011852
GPS INTERNAL BATTERY DEAD.									
HEEA 6240	5031U S678	BOLKMS BO105S				INDICATOR DL43638	DEFECTIVE TRIPLE TACH		11/5/97 HEEA0011788
TRIPLE TACH ROTOR RPM 4% HIGH.									
HEEA 6240	5031U S678	BOLKMS BO105S				WARNING BOX KDW021	INOPERATIVE ROTOR RPM		10/22/97 HEEA0011713
RPM WARN BOX INOPERATIVE.									
HEEA 6240	5031U S678	BOLKMS BO105S				INDICATOR DL43638	STICKS TRIPLE TACH		11/5/97 HEEA0011789
TRIPLE TACH RPM STICKS.									
HEEA 6240	54191 S804	BOLKMS BO105S				TRANSMITTER 10594575	MALFUNCTIONED M/R TORQUE		10/22/97 HEEA0011709
TORQUE TRANSMITTER LIGHT DOES NOT COME ON.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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HEEA 6240	54191 S804	BOLKMS BO105S				INDICATOR 10594564	FAILED MAST MOMENT		10/22/97 HEEA0011710
MAST MOMENT LIGHT DOES NOT COME ON.									
HEEA 6240	54197 S805	BOLKMS BO105S				WARNING BOX KDW021A	FAILED ROTOR RPM		11/5/97 HEEA0011796
RPM WARN BOX WARNING GOES OFF INADVERTENTLY.									
HEEA 6240	137AE S851	BOLKMS BO105S				TRANSMITTER 10594575	DEFECTIVE MAST MOMENT		11/5/97 HEEA0011783
MANT MOMENT INDICATOR LIGHT FLICKERS.									
HEEA 6240	137AE S851	BOLKMS BO105S				INDICATOR 10594564	DEFECTIVE MAST MOMENT		11/5/97 HEEA0011782
MAST MOMENT INDICATOR LIGHT FLICKERS.									
EOPR 6320	492HL S803	BOLKMS BO105CBS				BEARING 4638302024	SPALLED M/R GEARBOX		8/21/97 97ZZZX4832
TRANSMISSION RECEIVED FOR METAL IN OIL. INSPECTION REVEALED NOTHING ABNORMAL EXCEPT LT INPUT PINION AND 4638-302-024 BEARING HAD A FEW SLIGHT DENTS OR MARKS IN ROLLERS AND ROLLER PATH ON PINION. BEARING WAS CUT APART AND THE OUTER RACE WAS FOUND VERY SPALLED. REPAIRED TRANSMISSION. REPLACED BEARING.									
HEEA 6410	911PF S718	BOLKMS BO105S				BLADE 10531980	DEFECTIVE T/R	682	10/22/97 HEEA0011693
T/R BLADE PAINT PEELING; RUBBER COATING MISSING AT BLADE TIP.									
HEEA 6520	81832 S828	BOLKMS BO105S				BEVEL GEAR SET 4619210902	MAKING METAL T/R XMSN	176	10/31/97 HEEA0011734
BEVEL GEAR SET CAUSE OF METAL IN OIL.									
HEEA 7714	5031U S678	BOLKMS BO105S				TACHOMETER GENER 32005007	ERRATIC ENGINE		11/7/97 HEEA0011832
TACH GENERATOR ERRATIC INDICATION.									
HEEA 7722	3526T S610	BOLKMS BO105S				INDICATOR 50061036	DEFECTIVE EXH TEMP		10/22/97 HEEA0011645
EXH TEMP INDICATOR EXCESSIVE FRICTION ERROR.									
HEEA 7722	3526T S610	BOLKMS BO105S				INDICATOR 50061036	ERROR EXH TEMP		10/22/97 HEEA0011644
EXH TEMP INDICATOR WILL NOT CALIBRATE EXCESSIVE FRICTION ERROR.									
HEEA 7722	5421E S806	BOLKMS BO105S				INDICATOR TM42739	FAILED EXH TEMP		10/22/97 HEEA0011666
INDICATOR HAS EXCESSIVE FRICTION AND READS LOW OUT OF TOLERANCE.									
HEEA 7722	5421E S806	BOLKMS BO105S				INDICATOR 50061036	DEFECTIVE EXH TEMP		10/22/97 HEEA0011712
EXH TEMP NEEDLE HAS EXCESSIVE FRICTION.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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HEEA 7921	86CH S557	BOLKMS BO105S				OIL COOLER 37010200004	LEAKING NR 2 ENG		10/22/97 HEEA0011685
OIL COOLER LEAKING, NR2 ENGINE OIL COOLER.									
HEEA 7921	6607K S841	BOLKMS BO105S				OIL COOLER 37010200004	LEAKING ENG OIL		11/10/97 HEEA0011855
FOUND LEAKING AT NR2 ENGINE SIDE OF OIL COOLER. OIL BEING BLOWN OUT OF COOLER DURING FLIGHT.									
HEEA 7923	3071K S859	BOLKMS BO105S				VALVE 209072433103	INOPERATIVE		10/22/97 HEEA0011698
VALVE INOPERATIVE.									
HEEA 2210	911RZ 7092	BOLKMS BK117A4				SENSOR BHL430515	FAILED SPAS SYS		10/22/97 HEEA0011649
SPAS WOULD NOT TEST.									
HEEA 2422	134AE 7237	BOLKMS BK117B2				STATIC INVERTER SPS1607A	BROKEN MOUNT		11/5/97 HEEA0011775
STATIC INVERTER BROKEN SCREWS ON MOUNT.									
HEEA 6320	911NC 7026	BOLKMS BK117A3				FILTER ASSY 1171264801	MALFUNCTIONED M/R GR BOX		11/5/97 HEEA0011798
FILTER ASSY BYPASS INDICATOR DOES NOT PROPERLY OPERATE.									
HEEA 6410	136AE 7234	BOLKMS BK117B2				BLADE 11731743	DAMAGED T/R	1384	11/7/97 HEEA0011826
S/N 0005 HAS LEADING EDGE DAMAGED. S/N 017 HAS NO DISCREPANCY									
HEEA 7310	132AE 7238	BOLKMS BK117B2	LYC LTS101750B1			FUEL NOZZLE 430137601	LEAK ENGINE		10/24/97 HEEA0011726
INSPECTION REVEALED FUEL LEAK IN BEND OF FORWARD LINE BETWEEN FUEL NOZZLES AT 9 O'CLOCK POSITION. REPLACED FUEL MANIFOLD. INSTALLED S/N 1NL06437. REQUESTING 100% WARRANTY REPAIR.									
R7MR 7412	118LF 7137	BOLKMS BK117A4	LYC LTS101650B1			EXCITER 103832251	FAILED NR 1 ENGINE	869	10/5/97 97ZZZX4830
IGNITION EXCITER UNIT INOPERATIVE. FAILED TO IGNITE ENGINE. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.									
HEEA 7714	911NC 7026	BOLKMS BK117A3				INDICATOR 1179405603	FAULTY ENG N1		10/22/97 HEEA0011643
N1 INDICATOR HIGH OUT OF TOLERANCE ABOVE 50% INTERMITTENT OPERATION.									
HEEA 7714	401PH 7050	BOLKMS BK117A3				INDICATOR 1179405603	FAILED ENG N1		10/22/97 HEEA0011689
N1 INDICATOR WILL NOT INDICATE.									
2810 *****	159RP 0342	ROBSIN R44				DRAIN TUBE A7297	LEAKS RT FIREWALL	95	11/5/97 97ZZZX4811
DRAIN TUBE OPENING IS LOCATED INSIDE AIRFRAME IN TRANSMISSION AREA. WHEN SUMP DRAIN VALVE LEAKS, FUEL DRAINS INTO AND ACCUMULATES AT JUNCTION OF FIREWALLS CREATING EXTREME FIRE HAZARD. SUBMITTER RECOMMENDS REVISING THE SUMP DRAIN PLUMBING ALA R22 SYSTEM TO PROVIDE POSITIVE OVERBOARD VENTING OF FUEL IN THE EVENT OF DRAIN VALVE SEEPAGE. REF: R44 IPC FIG 8-5, ITEMS 8 AND 10.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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HEEA 2841	4253S 760035	SKRSKY S76A				INDICATOR AT2062	DEFECTIVE FUEL SYS		10/22/97 HEEA0011653
TOTALIZER INDICATOR PARTS LOOSE INSIDE.									
HEEA 2841	5128 760181	SKRSKY S76A				INDICATOR 7645001078103	FAILED FUEL QTY		11/5/97 HEEA0011778
FUEL QTY INDICATOR BOTH NEEDLES WILL NOT INDICATE.									
HEEA 2932	22342 760096	SKRSKY S76A				TRANSMITTER 7645001078121	DEFECTIVE NR 1 HYD SYS		10/22/97 HEEA0011639
HYD TRANSMITTER DEFECTIVE. SLIGHT FLUCTUATION ON NR1 INDICATOR SYSTEM PRESSURE.									
HEEA 3340	1546G 760076	SKRSKY S76A			WHELEN	POWER SUPPLY A413AHDADF1428	FAILED STROBE		11/6/97 HEEA0011809
POWER SUPPLY INOPERATIVE.									
HEEA 3350	22342 760096	SKRSKY S76A				EMERGENCY POWER 6013211	FAILED EMERGENCY LIGHT		10/22/97 HEEA0011659
EMERGENCY POWER DEAD CELL. EMERGENCY LIGHT WILL NOT COME ON.									
HEEA 3414	1546G 760076	SKRSKY S76A				INDICATOR 7645000801101	DEFECTIVE AIR SPEED		11/5/97 HEEA0011779
AIR SPEED INDICATOR READS 50 KNOTS SLOWER.									
HEEA 3416	1546G 760076	SKRSKY S76A				ALTIMETER 5035P2P44	DEFECTIVE COCKPIT ENCODER		10/22/97 HEEA0011677
ENCODING ALTIMETER READS 100 FT LOW.									
HEEA 5320	31219 760230	SKRSKY S76A				WEB 7635109035102	UNBONDED FUSELAGE		10/22/97 HEEA0011716
WEB IN UNBONDED.									
HEEA 6210		SKRSKY S76A				TIP CAP 7615009043050	DEFECTIVE M/R		10/22/97 HEEA0011652
TIP CAP NEEDS BALANCING. RECEIVED PART WITH NO FORWARD WEIGHTS THEREFORE TIP CAP IS LIGHT. TIME SINCE REPAIR 0:00.									
HEEA 6210	1547D 760077	SKRSKY S76A				TIP CAP 7615009043050	TORN M/R BLADE		10/22/97 HEEA0011717
SKIN TORN ON THE LOWER SIDE, JUST AFT OF THE LEADING EDGE STRIP.									
HEEA 6220	3122H 760233	SKRSKY S76A				DAMPER 7610608000049	LEAKING M/R		10/22/97 HEEA0011640
M/R DAMPER LEAKING.									
HEEA 6240	5435V 760158	SKRSKY S76A				AMPLIFIER 7690001881103	MALFUNCTIONED VIB ABSORB		10/22/97 HEEA0011696
TURNING AFFECTS VIBRATION LEVELS.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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HEEA 6300	1545X 760050	SKRSKY S76A				BEARING SB7003102	SEPARATED M/R DRIVE		11/7/97 HEEA0011842
	BEARING SEPARATION BEYOND LIMITS.								
HEEA 3340	6097Z 2820	SNIAS AS350B2			WHELEN	POWER SUPPLY A490A	FAILED BEACON		11/6/97 HEEA0011801
	POWER SUPPLY BLOWS FUSES.								
HEEA 6220	6100R 2862	SNIAS AS350B2				STOP ASSY 704A3363310951	WORN M/R	1911	10/31/97 HEEA0011738
	BEARINGS ARE WORN AND DETERIORATED. SERIAL NUMBERS REMOVED ARE 10426, 8824 AND 8836.								
HEEA 6220	6100R 2862	SNIAS AS350B2				BALL JOINT 117775P	WORN STARFLEX	1567	10/31/97 HEEA0011742
	STARFLEX BALL JOINT BEARINGS WORN.								
HEEA 6230	6097Z 2820	SNIAS AS350B2				YOKE ASSY 350A37116200	BROKEN M/R STOP	3373	10/31/97 HEEA0011736
	YOKE ASSY STOP BROKEN.								
HEEA 6310	60951 2771	SNIAS AS350B2				COUPLING 350A35110205	WORN XMSN	4954	10/31/97 HEEA0011744
	COUPLING BEARINGS WORN.								
HEEA 6310	60951 2771	SNIAS AS350B2				RING 350A35110500	WORN GIMBAL RING	4954	10/31/97 HEEA0011745
	BORES WORN ON GIMBAL RING.								
HEEA 6320	60951 2771	SNIAS AS350B2				CASING 350A35110403	WORN MGB	4954	10/31/97 HEEA0011746
	MGB CASING BUSHING BORE WORN.								
HEEA 6520	4000L 2873	SNIAS AS350B2				BEARING 350A33215300	SEPARATION T/R DRIVE		11/5/97 HEEA0011793
	BEARING SEPARATION.								
HEEA 6520	4000L 2873	SNIAS AS350B2				GEAR BOX ASSY 350A33020005	DEFECTIVE T/R GR BOX SHAFT	8118	10/31/97 HEEA0011749
	T/R GR BOX CHROME COMING OFF OUTPUT SHAFT.								
HEEA 6730	6097Z 2820	SNIAS AS350B2				SERVO SC50821	LEAKING FRONT CONTROL	1699	10/31/97 HEEA0011748
	SERVO LEAKING AT PISTON O'RING.								
HEEA 6730	6100R 2862	SNIAS AS350B2				SERVO SC50821	BINDING FRONT CONTROL	1069	10/31/97 HEEA0011747
	CYCLIC BIND, FORE AND AFT.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS (cont'd)

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HEEA 7210	6095S 2777	SNIAS AS350B2	TMECA ARRIEL1D			ENGINE 0292005220	MAKING METAL GR BOX	2160	11/7/97 HEEA0011825
S.O.A.P SAMPLE SHOWED HIGH IRON AND OTHER METAL CONTENT.									
HEEA 7250	60951 2771	SNIAS AS350B2	TMECA ARRIEL1D			BEARING 0292005220	CRACKED ENGINE NGV	2460	11/7/97 HEEA0011836
REAR BEARING P.T. NGV CRACKED AT 6:00 POSITION BEYOND LIMITS. DURING BORESCOPE INSPECTION OF COMB. CHAMBER SWIRL PLATE, FOUND CRACK OF ABOUT 90 DEGREES.									
HEEA 7722	60951 2771	SNIAS AS350B2				PROBE 6401497000	FAILED TEMPERATURE	4928	10/31/97 HEEA0011737
NG MAX NUMBER STAYS THE SAME EVERYDAY.									
HEEA 7722	4000L 2873	SNIAS AS350B2				INDICATOR SELOC19EH	INTERMITTENT ENG T4	891	10/31/97 HEEA0011754
ON START UP, T4 GAUGE INTERMITTENT, STICKS ON RELEASE.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

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7420	1880G 50	BBAVIA 7GCBC	LYC O320A2B			P LEAD	SHORTED LT-RT MAG		8/31/97 97ZZZX4812
*****	FORCED LANDING DUE TO ENGINE STOPPAGE. INVESTIGATION DETERMINED ENGINE STOPPAGE DUE TO WIRE BETWEEN MASTER SWITCH LOCATED ABOVE AND LEFT OF PILOT'S HEAD AND THE OVERVOLTAGE RELAY LOCATED ON RIGHT UPPER SIDE OF ENGINE FIREWALL BECOMING EXTREMELY HOT. THE EXTREME TEMPERATURE MELTED WIRE'S INSULATION AND P-LEAD WIRES IN SAME WIRE BUNDLE. THIS SHORTED THE LEFT AND RIGHT MAGNETOS CAUSING ENGINE TO CEASE OPERATION. THERE IS NO CIRCUIT PROTECTION FOR THE WIRE IN QUESTION BETWEEN MASTER SWITCH AND OVERVOLTAGE RELAY. SUBMITTER SUGGESTED A SB TO REQUIRE A BREAKER SWITCH BE INSTALLED IN PLACE OF STANDARD MASTER SWITCH AND THIS SB BE MANDATED BY AD.								
8520	1851Z M2343	BEECH C23	LYC O360A4J			LIFTER 72877	BROKEN NR 2 CYLINDER	1770	9/24/97 97ZZZX4779
	TEAR DOWN REVEALED ALL LIFTER BODY HEADS BROKEN OFF AT CAM CONTACT POINT. BROKEN PIECES THEN LODGED BETWEEN CAM LOBES AND ENGINE CASE RESULTING IN THE ENGINE CASE BEING CRACKED AND BROKEN IN SEVERAL PLACES AND LOSS OF ENGINE OIL. SUSPECT INITIAL FAILURE OF NR 2 CYLINDER INTAKE LIFTER BODY. POSSIBLE METAL FATIGUE. PIECES FROM THIS WERE DEPOSITED BENEATH OTHER BODIES CAUSING FURTHER BREAKAGE.								
8530	9469S TE67	BEECH 95C55	CONT IO520C			SPRING	BROKEN NR 2 CYL EXH VLV	40	10/29/97 97ZZZX4764
	ENGINE RAN ROUGH. INSPECTION FOUND NR 2 EXHAUST OUTER VALVE SPRING BROKEN.								
8530	82LB TH910	BEECH 58	CONT IO520C			CYLINDER	FAILED RT ENG NR 4	148	10/11/97 97ZZZX4820
	PILOT REPORTED RIGHT ENGINE RUNNING ROUGH. INVESTIGATION FOUND NR 4 CYL HEAD SEPARATED FROM BARREL. THE CYLINDER HAD BEEN INSTALLED 148 HOURS BEFORE. RECENTLY OVERHAULED. TOTAL TIME ON CYLINDERS ARE NOT RECORDED. SUBMITTER RECOMMENDS THAT CYLINDERS BE SCRAPPED AFTER THEIR SECOND RUN OR TIME LIFE LIMIT BE ESTABLISHED BY THE MFG ON CURRENT PRODUCTION ENGINE.								
GDMA 7261	58HJ 30314	BELL 205A1	LYC T5313B			OIL PUMP 13002124	FAILED ENGINE OIL	4346 1005	10/18/97 97ZZZX4823
	PILOT REPORTED LOSS OF OIL PRESSURE IN-FLIGHT. THE FLIGHT WAS TERMINATED IMMEDIATELY AND THE ENGINE WAS SHUT DOWN. UPON INVESTIGATION, THE ENGINE OIL PUMP DRIVESHAFT WAS FOUND BROKEN. WHEN PUMP WAS REMOVED, A PIECE OF GEAR TOOTH FELL FROM PUMP OIL PASSAGE. GEAR PIECE IS FOREIGN TO THE OIL PUMP. AT THIS TIME, IT IS NOT KNOWN WHERE THE GEAR TOOTH CAME FROM.								
7532	37488 2188	BELL 206B	ALLSN 250C20			BLEED VALVE 23053176	STICKING ENGINE	447	10/16/97 97ZZZX4810
	VALVE APPARENTLY IS STICKING IN THE CLOSED POSITION AND DOES NOT OPEN UP WHEN POWER DEMAND IS DECREASED. THIS CREATES A MOMENTARY COMPRESSOR STALL RESULTING IN GUNSHOT TYPE SOUNDS COMING FROM THE EXHAUST ON THE TURBINE.								
NXTA 7320	142CF 47531	BELL 222U	LYC LTS101750C1			TUBE 418184001	CRACKED FC PY LINE		10/11/97 97ZZZX4835
	REPLACED CRACKED PY LINE AT FUEL CONTROL UNIT.								
HEEA 7250	5759N 33002	BELL 412	PWA PT6T3B			POWER SECTION 3017600	FAILED ENGINE	11978	10/22/97 HEEA0011714
	N2 POWER SECTION DROPPED OFF LINE UPON LANDING. CANNOT ROTATE N2: N1 TURNS FREELY.								
HEEA 7250	107X 33113	BELL 412	PWA PT6T3B			POWER SECTION 3017600	CRACKED TURBINE	11668	11/7/97 HEEA0011818
	ENGINE POWER SECTION HAS A CRACK IN GENERATOR CASE.								

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES (cont'd)

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ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
HEEA 7420	3893N 33010	BELL 412				IGNITER LEAD CH5339901	FRAYED ENGINE		11/5/97 HEEA0011768
SHIELD FRAYED INSULATOR MISSING AT IGNITOR END.									
HEEA 7420	3893S 33022	BELL 412				IGNITER LEAD CH5339901	INOPERATIVE ENGINE		11/5/97 HEEA0011769
IGNITER LEAD INOPERATIVE.									
HEEA 7310	132AE 7238	BOLKMS BK117B2	LYC LTS101750B1			FUEL NOZZLE 430137601	LEAK ENGINE		10/24/97 HEEA0011726
INSPECTION REVEALED FUEL LEAK IN BEND OF FORWARD LINE BETWEEN FUEL NOZZLES AT 9 O'CLOCK POSITION. REPLACED FUEL MANIFOLD. INSTALLED S/N 1NL06437. REQUESTING 100% WARRANTY REPAIR.									
R7MR 7412	118LF 7137	BOLKMS BK117A4	LYC LTS101650B1			EXCITER 103832251	FAILED NR 1 ENGINE	869	10/5/97 97ZZZX4830
IGNITION EXCITER UNIT INOPERATIVE. FAILED TO IGNITE ENGINE. REPLACED WITH NEW UNIT, CORRECTED PROBLEM.									
ISCA 7200	709PV 640	DHAV DHC6300	PWA PT6A27			ENGINE	MALFUNCTIONED TORQUE		11/4/97 97ZZZX4825
FLT 1275 - BOTH ENGINES EXCEEDED MAXIMUM TORQUE LIMITS AS PRESCRIBED BY THE MANUFACTURER. ISLAND AIR BELIEVES THE CAUSE OF THE INCIDENT WAS OR CAN BE ATTRIBUTED TO THE WIND CONDITIONS THAT WERE PRESENT DURING THE COURSE OF THE FLIGHT.									
8550	46SD 278054040	PIPER PA23250	LYC IO540C4B5			HOUSING 76152	LEAK FILTER MOUNT PAD 50		10/8/97 97ZZZX4755
A FLAW IN THE CASTING NEAR THE UPPER LEFT HAND CORNER OF THE OIL FILTER ADAPTER MOUNTING PAD WAS ALLOWING OIL UNDER PRESSURE TO LEAK THROUGH THE CASTING. THE ENGINE HAD BEEN OVERHAULED BY LYCOMING 50 HOURS PRIOR TO THE OCCURRENCE.									
8530	162ER 2841152	PIPER PA28161	LYC O320D3G			CYLINDER	CRACKED NR 2 CYL BARREL	3000 282	11/4/97 97ZZZX4796
THE PILOT REPORTED A ROUGH ENGINE AND MADE A PRECAUTIONARY LANDING. A COMPRESSION GAUGE REVEALED THE NR 2 CYLINDER LEAKING BETWEEN THE HEAD AND BARREL (6 INCHES FROM THE MOUNTING FLANGE). THIS IS BETWEEN THE COOLING FINS AT THE BASE OF THE EXHAUST PORT. THE CRACK IS ABOUT 4 INCHES LONG. THE CYLINDER WAS REMOVED AND A NEW ONE INSTALLED.									
FFKA 7414	7748J 321152	PIPER PA32260	LYC O540E4B5		SLICK 6355	IMPULSE COUPLING M3635	BROKEN LT MAG	667	10/15/97 97ZZZX4762
***** ACFT IN CRUISE AT 4,000 FEET ON IFR FLIGHT PLAN WHEN ENGINE SUDDENLY LOST POWER. ALL ATTEMPTS MADE BY PILOT TO RESTART THE ENGINE UNSUCCESSFUL. PILOT WAS ABLE TO MAKE A FORCED LANDING IN A COW POSTURE. INVESTIGATION AND ENG TEAR DOWN REVEALED LT MAG HAD SEIZED. MORE SPECIFICALLY, THE RIVETS WHICH RETAIN PAWLS INSIDE IMPULSE COUPLING ASSY, PN M3635, HAD FAILED CAUSING PAWLS TO JAM BETWEEN MAG HOUSING AND THE IMPULSE COUPLING ASSY. THIS PREVENTED MAG FROM TURNING WHICH DAMAGED BOTH THE CRANKSHAFT AND IDLER GEARS IN ENG ACCY HOUSING. INSP OF THE IMPULSE COUPLING ASSY AND RETAINING RIVETS ARE DETAILED IN SLICK L-1363 MAIN AND O/H MANUAL, WHICH, ACCORDING TO SLICK, IS REFERENCED IN THEIR 500 HOUR INSP.									
HEEA 7210	6095S 2777	SNIAS AS350B2	TMECA ARRIEL1D			ENGINE 0292005220	MAKING METAL GR BOX	2160	11/7/97 HEEA0011825
S.O.A.P SAMPLE SHOWED HIGH IRON AND OTHER METAL CONTENT.									
HEEA 7250	60951 2771	SNIAS AS350B2	TMECA ARRIEL1D			BEARING 0292005220	CRACKED ENGINE NGV	2460	11/7/97 HEEA0011836
REAR BEARING P.T. NGV CRACKED AT 6:00 POSITION BEYOND LIMITS. DURING BORESCOPE INSPECTION OF COMB. CHAMBER SWIRL PLATE, FOUND CRACK OF ABOUT 90 DEGREES.									

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

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HEEA 2330	5007N 45184	BELL 206L1				AMPLIFIER AA20030	OVERHEATS PUB ADDRESS		10/22/97 HEEA0011664
PA AMPLIFIER GETS EXCESSIVELY HOT; THEN SHUTS DOWN.									
HEEA 2562	2759U 45267	BELL 206L1			NARCO	ELT ELT910	FAILED COCKPIT		10/22/97 HEEA0011675
ELT ACTIVATION LIGHT STAYS ON.									
HEEA 2562	6251Y 51556	BELL 206L3			NARCO	ELT ELT10	INOPERATIVE COCKPIT		11/5/97 HEEA0011780
ELT INOPERATIVE, BATTERY DEAD.									
HEEA 3413	21240 45647	BELL 206L1				INDICATOR 206070278005	STICKS COCKPIT VSI		10/22/97 HEEA0011630
NEEDLE STICKS AROUND 500 FEET GOING UP.									
HEEA 3413	515KA 51048	BELL 206L3				INDICATOR 212070239001	FAILED COCKPIT VSI		11/7/97 HEEA0011840
RATE OF CLIMB INDICATOR FAILED. CANNOT GET INDICATOR TO ZERO.									
HEEA 3414	45RP 45521	BELL 206L1				INDICATOR 8000	FLUCTUATES AIR SPEED		11/5/97 HEEA0011790
AIR SPEED NEEDLE FLUCTUATES IN FLIGHT.									
HEEA 3416	21240 45647	BELL 206L1				ALTIMETER 5934D1	ERROR COCKPIT		10/22/97 HEEA0011631
ALTIMETER HAS EXCESSIVE CASE LEAKAGE AND FRICTION ERROR.									
HEEA 3416	21240 45647	BELL 206L1				ALTIMETER 1330061	CORRODED COCKPIT		10/22/97 HEEA0011638
EXCESSIVE FRICTION ERROR AND CORRODED ON HOUSING.									
HEEA 3416	515KA 51048	BELL 206L3			RT220	ALTIMETER 4004437903	FAILED COCKPIT		11/7/97 HEEA0011848
FAILED 1.1 ON SST ALTIMETER VALID LIGHT DOES NOT STAY ON.									
HEEA 3424	363BH 51345	BELL 206L3				INDICATOR 206070274005	INOPERATIVE COCKPIT T&B		10/22/97 HEEA0011704
INDICATOR INOPERATIVE.									
HEEA 3440		BELL 206L3				RNAV 6223767001	DEFECTIVE COCKPIT		11/5/97 HEEA0011800
RNAV BUTTON STICKS.									
HEEA 3423	102PH 30899	BELL 212				COMPENSATOR 2593379001	SHORTED COMPASS		10/22/97 HEEA0011695
COMPENSATOR SHORTED OUT INTERNALLY.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS (cont'd)

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HEEA 2210	1202T 33112	BELL 412				TARSYN 2593996333	DEFECTIVE COCKPIT		11/7/97 HEEA0011828
TARSYN DOES NOT STABILIZE. FAILED TEST 3.1 ON SST BENCH.									
HEEA 2210	6559Z 36019	BELL 412				TARSYN 2593996333	FAILED COCKPIT DG		11/7/97 HEEA0011827
DIRECTIONAL GYRO WILL NOT TURN COMPASS CARD ON HSI AND OFF FLAG WILL NOT PULL ON HSI.									
HEEA 2211	2014K 33020	BELL 412				COMPUTER 4025008918	FAILED AFCS		10/22/97 HEEA0011650
AFCS COMPUTER FAILED 31.2 AND FOLLOWING TEST ON SST.									
HEEA 2562	5759N 33002	BELL 412			NARCO	ELT ELT910	MALFUNCTIONED COCKPIT		10/22/97 HEEA0011674
ELT GOES OFF INTERMITTENTLY.									
HEEA 3414	108X 33115	BELL 412				INDICATOR 412075009105	DEFECTIVE AIR SPEED		10/22/97 HEEA0011690
AIR SPEED INDICATOR READS LOW APPROXIMATELY 15 MPH.									
HEEA 3416	2149S 36002	BELL 412				ALTIMETER 1003511326	DEFECTIVE COCKPIT		10/22/97 HEEA0011642
ALTIMETER HAS LOOSE PARTS INSIDE.									
HEEA 3416	2149S 36002	BELL 412				ENCODER 066306401	FAILED COCKPIT ALT		11/5/97 HEEA0011774
ENCODER INDICATES HIGH OUT OF TOLERANCE ON HIGH END.									
HEEA 3416	22347 36005	BELL 412				ENCODER 8800	FAILED ALTIMETER		10/22/97 HEEA0011651
ENCODER DOES NOT SUPPLY ANY ALTITUDE READINGS TO TEST BOX.									
HEEA 3420	22347 36005	BELL 412				GYRO 4020936903	DEFECTIVE 3 AXIS GYRO		11/5/97 HEEA0011786
3 AXIS GYRO ERECTS FASTER THAN OTHER INSTALLED TARSYN.									
HEEA 3421	1202T 33112	BELL 412				INDICATOR 222375033103	FAILED COCKPIT ATTITUDE		11/10/97 HEEA0011851
ATTITUDE INDICATOR WON'T STAY ERECT IN AIRCRAFT. TIME SINCE REPAIR 77:05.									
HEEA 3421	107X 33113	BELL 412				INDICATOR 222375033103	FAILED COCKPIT ATTITUDE		11/5/97 HEEA0011787
ATTITUDE INDICATOR INOPERATIVE.									
HEEA 3444	107X 33113	BELL 412				TRANSPONDER 7001840913	FAILED RADIO ALT		10/22/97 HEEA0011706
FAILED TEST 5.2 ON SST AND HAS LOW OUTPUT. SENT TO HONEYWELL, TEXAS FOR INSPECTION AND REPAIR.									

***** DENOTES SIGNIFICANT OCCURRENCE

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS (cont'd)

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HEEA 3457	2148K 36001	BELL 412			GARMIN	GPS165 0110010600	DEFECTIVE COCKPIT GPS		11/10/97 HEEA0011853
GPS INTERNAL BATTERY NEEDS REPLACEMENT. FOUND MESSAGE TO DISPLAY "EXTERNAL BATTERY OVERTEMP".									
HEEA 3423	81832 S828	BOLKMS BO105S				COMPASS KCA0105W	LEAKING COCKPIT		11/7/97 HEEA0011834
MAG COMPASS LEAKING.									
HEEA 3444	137AE S851	BOLKMS BO105S				ANTENNA 071111400	BROKEN RADAR ALTIMETER		11/10/97 HEEA0011854
RADAR ALTITUDE FLUCTUATES ON GROUND. FOUND BNC BROKEN OFF AND GASKET MISSING.									
HEEA 3457	131AE S787	BOLKMS BO105S			GARMIN	GPS 150 0110005400	FAILED COCKPIT GPS	878	11/10/97 HEEA0011852
GPS INTERNAL BATTERY DEAD.									
HEEA 2210	911RZ 7092	BOLKMS BK117A4				SENSOR BHL430515	FAILED SPAS SYS		10/22/97 HEEA0011649
SPAS WOULD NOT TEST.									
HEEA 3414	1546G 760076	SKRSKY S76A				INDICATOR 7645000801101	DEFECTIVE AIR SPEED		11/5/97 HEEA0011779
AIR SPEED INDICATOR READS 50 KNOTS SLOWER.									
HEEA 3416	1546G 760076	SKRSKY S76A				ALTIMETER 5035P2P44	DEFECTIVE COCKPIT ENCODER		10/22/97 HEEA0011677
ENCODING ALTIMETER READS 100 FT LOW.									
(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS

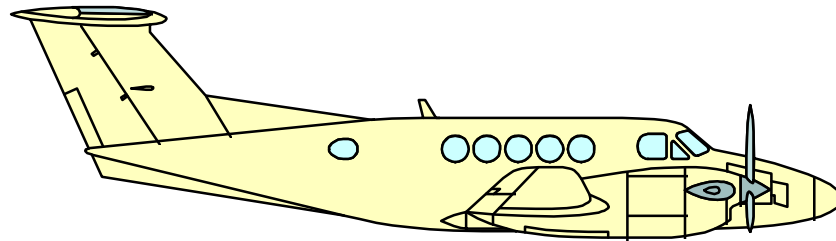
11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327

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HEEA 6140	30PH BB635	BEECH 200BEECH				TACH GENERATOR 503890571	CORRODED PROP		11/7/97 HEEA0011824
TACH GENERATOR HAS CORROSION ON CANNON PLUG AND CASE.									
PI4R 6114	9675K T18803966T	CESSNA T188C		MCAULY D3A34C402		HUB D5858C402	CRACKED NR 3 SOCKET		10/29/97 97ZZZX4767
INSPECTION FOUND HUB CRACKED (OVER 3 INCHES LONG) ON FRONT OF NR 3 BLADE SOCKET AND AROUND BOTH LIPS OF NR 3 BLADE SOCKET. NR 3 BLADE BEARING BROKEN AND BUTT AREA OF NR 3 BLADE DAMAGED BEYOND REPAIRABLE LIMITS (BLADE MODEL: G90DFA-10). SCRAP HUB SENT TO MCCAULEY FOR EVALUATION. CAUSE OF CRACK UNKNOWN.									
6111	931FE 208B0031	CESSNA 208B		HARTZL HCB3M		BLADE M10083	CRACKED BLADE FACE	5378 2091	10/22/97 97ZZZX4805
INSPECTION FOUND ALL 3 BLADES HAVE CHORDWISE CRACKS BEYOND THE 3.5 INCH LIMIT. ALL CRACKS LEAD UP TO AND POSSIBLY UNDER THE EROSION SHIELD. THE CRACKS WERE FOUND DURING INSPECTION PER HARTZELL JB 169A. PROPELLER REMOVED FROM SERVICE AT THIS TIME.									
6111	931FE 208B0031	CESSNA 208B		HARTZL HCB3M		BLADE M10083	CRACKED BLADE FACE	5378 2091	10/22/97 97ZZZX4804
INSPECTION FOUND ALL 3 BLADES HAVE CHORDWISE CRACKS BEYOND THE 3.5 INCH LIMIT. ALL CRACKS LEAD UP TO AND POSSIBLY UNDER THE EROSION SHIELD. THE CRACKS WERE FOUND DURING INSPECTION PER HARTZELL JB 169A. PROPELLER REMOVED FROM SERVICE AT THIS TIME.									
6111	931FE 208B0031	CESSNA 208B		HARTZL HCB3M		BLADE M10083	CRACKED BLADE FACE	5378 2091	10/22/97 97ZZZX4803
*****	INSPECTION FOUND ALL 3 BLADES HAVE CHORDWISE CRACKS BEYOND THE 3.5 INCH LIMIT. ALL CRACKS LEAD UP TO AND POSSIBLY UNDER THE EROSION SHIELD. THE CRACKS WERE FOUND DURING INSPECTION PER HARTZELL JB 169A. PROPELLER REMOVED FROM SERVICE AT THIS TIME.								

(End of DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)



INTERNATIONAL SERVICE DIFFICULTY REPORT



INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

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3233		BEECH A100	PWA PT6A34		BEECH 99910057651	BEARING MRC7107KRD	DESTROYED LDG GEAR ACTUATR		8/27/94 CA940914024
*****	(CAN) ON RETRACTION GEAR HAD TO BE MANUALLY LOWERED. RH MLG ACTUATOR CROWN & PINION GEARS WERE CHIPPED & HAD JAMMED. 10 HOURS PREVIOUS A 1000 CYCLE ACTUATOR END PLAY INSP WHICH INCLUDED DISASSEMBLY HAD BEEN PERFORMED. LOWER THRUST BEARING HAD BEEN INSTALLED UPSIDE DOWN, CAUSING BEARING TO FAIL ALLOWING EXCESSIVE BACKLASH ON CROWN & PINION GEARS.								
5521		BEECH 100BEECH	PWA PT6A28		BEECH	RIB 115610010185	CRACKED ELEVATOR RH	11450	9/1/94 CA940914021
	(CAN) WHEN COMPLYING WITH AD 76-22-03, NOSE RIB AT STA. 124.91 FOUND CRACKED. REPAIRED WITH KIT P/N 100-4005-1S.								
5210		BEECH 200BEECH	PWA PT6A41	HARTZL HCB3TN3		HANDLE 1013840961	BROKEN PASS/CREW DOOR		2/14/97 AU970091
	(AUS) CABIN DOOR HANDLE BROKEN IN AREA AROUND BEARING HOUSING - HANDLE THEN SEPARATED FROM SQUARE SHAFT.								
2510		BEECH A2324	LYC IO360A2B	MCAULY 2D34C9		SEAT BELT	UNAPPROVED PART FLIGHT COMPART		1/15/97 AU970102
	(AUS) AUTOMOTIVE WEBBING AND HARDWARE USED FOR SEAT BELTS - UNAPPROVEDPART - PERSONNEL/MAINTENANCE ERROR								
5741		BEECH D55	CONT IO520C	MCAULY 2AF34C55		FITTING 951100162	CORRODED RT SPAR		1/15/97 AU970075
	(AUS) REAR SPAR RH WING FITTING CORRODED - WING BOLT, NUT AND WASHER ALSO CORRODED - FOUND DURING INSPECTION IAW AD/BEECH55/79								
2450		BEECH 58	CONT IO520C	HARTZL BHCJ2YF2		CIRCUIT BREAKER	MISWIRED AC POWER DISTRIB		1/30/97 AU970106
	(AUS) TRANSPONDER SYSTEM WIRED TO PRIMARY AH CIRCUIT BREAKER FOLLOWING FAILURE OF CORRECT CB WHICH HAD BEEN DISCONNECTED - CIRCUIT BREAKER MARKED 'RADAR' WAS REALLY THE COMPASS SYSTEM (COMPASS SYSTEM CB WAS FOUR CIRCUIT BREAKERS AWAY) - HF CIRCUIT BREAKER NOT MARKED - PERSONNEL/MAINTENANCE ERROR								
3020		BEECH C90A				TUBE 909100991	BROKEN COWL AIR INLET	14	8/9/94 CA940906001
	(CAN) FOUND LH ANTI-ICE FLEX TUBE BROKEN AT FORWARD END AT SCREW IN FITTING ELBOW. SAME TUBE ON RH ENGINE FOUND CHAFING. ALSO FOUND LH ENGINE EXHAUST PIPE CRACKED AROUND PERIPHERY OF WELD ATTACHING COWL LIP DEICE ADAPTOR PIPE TO EXHAUST PIPE. P/N OF THIS PIPE 109-950000-1. BEECH COMMUNIQUE #23 RECOMMENDS LOWER FLEX TUBE.								
2436		BNORM BN2B20	LYC IO540K1B5	HARTZL HCC2YK2		REGULATOR NB813485	BURNT DC VOLTAGE		2/9/97 AU970090
	(AUS) RH ALTERNATOR VOLTAGE REGULATOR BURNT OUT DUE TO FAILURE OF THE DRIVER TRANSISTOR IN THE ALTERNATOR FIELD WINDING								
2720		BNORM BN2A20	LYC IO540K1B5	HARTZL HCC2YK2		CABLE	MISROUTED RUDDER CONTROLS		2/8/97 AU970108
	(AUS) RUDDER PEDAL ADJUSTMENT CABLE INCORRECTLY ROUTED - CABLE ROUTED BELOW THE CONTROL COLUMN ELECTRICAL CORD INSTEAD OF ABOVE IT -THIS CAUSED THE CABLE TO SNAG ON THE ELECTRICAL CORD AND JAM THE CONTROL COLUMN IN THE FULL AFT POSITION - PERSONNEL/MAINTENANCE ERROR								
5500		CAMAIR 480				STRUT ASSY 41720007	CRACKED TAILBOOM	147	8/24/94 CA940906004
	(CAN) DURING A DAILY INSPECTION THE STRUT WAS FOUND CRACKED ON ONE SIDE, NEAR THE ATTACHMENT POINT								

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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5521		CESSNA A152		MCAULY 1A103TCM		SPAR 043200121	CRACKED LT ELEVATOR		1/23/97 AU970064
(AUS) LH ELEVATOR SPAR CRACKED FROM UPPER OUTBOARD BENDING RADIUS CUTOUT INBOARD ALONG VERTICAL FACE OF SPAR PASSING ADJACENT TO UPPER RIVET ATTACHING HINGE HALF PNO 0432001-71 - CRACK LENGTH 38MM (1.49IN) - DURING REPAIR ANOTHER CRACK WAS FOUND EXTENDING BELOW LOWER OUTBOARD RIVET ATTACHING TORQUE TUBE ASSEMBLY PNO 0434155-1 - CRACK LENGTH 20MM (0.78IN) - FAIRY EXTENSIVE CORROSION WAS ALSO FOUND AS NO ANTI CORROSION TREATMENT HAD BEEN APPLIED DURING MANUFACTURE									
3230		CESSNA 172RG	LYC O360F1A6	MCAULY B2D34C220	CESSNA	FITTING 24130023	CRACKED ACTUATR LDG GEAR		9/7/94 CA940914035
(CAN) BOLTS SECURING ACTUATOR FITTING FOR NOSE GEAR FOUND LOOSE. PULLING NOSE GEAR FORE & AFT SHOWED THAT FITTING WAS FLEXING. WHEN AREA CLEANED CRACKS WRE VISIBLE. CRACKS 1 TO 1-1/2 INCHES LONG.									
5753		CESSNA 172F	CONT O300C	MCAULY 1C172EM		FLAP 052390138	DAMAGED TE FLAP STRUCTUR		2/7/97 AU970086
(AUS) RH FLAP DISTORTED - FLAP HAD A BUILT IN CHORDWISE TWIST OF APPROXIMATELY 2.5 DEGREES - FLAP HAD BEEN DAMAGED AND REPAIRED ON 23/7/68 - FLAP HAD WORN FLAP TRACKS AND FLAP CONDITION WAS FOUND WHEN THE TRACKS WERE REPLACED WITH NEW ITEMS - INBOARD LOWER FLAP TRACK ATTACHMENT BRACKETS ALSO CRACKED - PERSONNEL/MAINTENANCE ERROR									
5521		CESSNA 182E	CONT O470R	MCAULY 2A36C29		ELEVATOR 07346001	CRACKED FRONT SPAR		8/13/94 CA940913302
(CAN) LEFT ELEVATOR FOUND CRACKED AT FRONT SPAR, BETWEEN HINGE BRACKETS, STARTING FROM UPPER RADIUS OF SPAR, RUNNING DOWN SPAR & CONTINUING CHORDWISE ALONG ELEVATOR LOWER SKIN FOR 8.5 INCHES. PART WAS SERVICEABLE 202.7 HOURS PREVIOUS. PTT UNKNOWN.									
2730		CESSNA 208	PWA PT6A114			TORQUE TUBE 26340171	CRACKED ELEVATOR CONTROI		1/22/97 AU970100
(AUS) LH ELEVATOR ASSEMBLY TORQUE TUBE CRACKED LONGITUDINALLY THROUGH RIVET HOLE 60MM (2.36IN) FROM INBOARD END - CORROSION FOUND BETWEEN TUBE AND END FITTING WHICH CAUSED THE TUBE TO EXPAND AND CRACK - SUSPECT INADEQUATE TREATMENT DURING ASSEMBLY - AIRCRAFT OPERATES AS A FLOAT PLANE IN A SALT LADEN ENVIRONMENT									
3230		CESSNA 210H	CONT IO520A	MCAULY D3A32C88		BOLT NAS464P644	CORRODED NLG DOWNLOCK		4/15/94 CA940914040
(CAN) NOSE WHEEL COLLAPSED ON LDG. FOUND NOSE GEAR DOWN LOCK PIVOT BOLT CORRODED WHICH PREVENTED DOWN LOCK FROM ENGAGING COMPLETELY.									
2434		CESSNA 310R	CONT IO520M	MCAULY 3AF32C87	PRESTOLITE ALV9402	HOUSING 260000160	CRACKED DC GENERATOR-ALT167		1/20/97 AU970072
(AUS) ALTERNATOR MAIN BEARING COLLAPSED AND OUTER HOUSING CRACKED									
3230		CESSNA 310R	CONT IO520M	MCAULY 3AF32C87		BELLCRANK 08411065	BROKEN LANDING GEAR RET		2/4/97 AU970080
(AUS) LH MAIN LANDING GEAR RETRACTION BELLCRANK BROKEN - UNLOCK PUSH/PULL ROD PNO 0840142-1 BENT - LANDING GEAR RETRACTION ROD PNO 0840125-15 INCORRECTLY INSTALLED ALLOWING FASTENER COLLAR TO INTERMITTENTLY CONTACT BOLT HEADS									
5720		CESSNA 310R	CONT IO520M	MCAULY 3AF32C87		BRACKET	CRACKED TIP TANK ATTACH		2/3/97 AU970067
(AUS) LH WING TIP TANK ATTACHMENT BRACKET CRACKED IN AREA OF TOP REAR RADIUS									
2913		CESSNA T337G	CONT TSIO360C		CESSNA 15800252	PRESS SWITCH	CONTAMINATED POWER PACK	2750	8/1/94 CA940903202
(CAN) GEAR WOULD NOT RETRACT COMPLETELY NOR EXTEND FROM WHERE IT STOPPED. PRESSURE SWITCH TURNED SYSTEM OFF TOO EARLY. PUMP & PRESSURE SWITCH HAD RECENTLY BEEN OVERHAULED, HOWEVER PRESSURE SWITCH SOME HOW GOT CONTAMINATED.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

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ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3222		CESSNA 402C	CONT TSIO520VB	MCAULY 3AF32C93		TORQUE LINK 08410021	STIFF NOSE GEAR		2/3/97 AU970082
(AUS) NOSE LANDING GEAR TORQUE LINKS STIFF IN OPERATION DUE TO THE LOWER ATTACHMENT BOLT BEING OVERTORQUED - NOSE OLEO WOULD NOT FULLY EXTEND CAUSING NLG TO FOUL ON GEAR DOORS -PERSONNEL/MAINTENANCE ERROR									
3230		CESSNA 402B			CESSNA	BRACKET 5011013	CRACKED LANDING GEAR		8/29/94 CA940913301
(CAN) THE CASTING THAT HOLDS LANDING GEAR TRANSMISSION & MOTOR CRACKED AT CENTRE BOLT. CRACK WAS NOTICED OPENING DURING GEAR RETRACTION.									
3234		CESSNA 402C	CONT TSIO520VB			SELECTOR VALVE 99102251	FAULTY GEAR SELECTOR		1/21/97 AU970105
(AUS) LANDING GEAR SELECTOR VALVE FAULTY - REPAIRED ITEM HAD BEEN FITTED BEFORE THE PREVIOUS FLIGHT - THE VALVE WAS AGAIN RETURNED TO THE OVERHAUL FACILITY - THE VALVE COULD NOT BE FAULTED INITIALLY BUT AFTER REPEATED TESTING THE VALVE FAILED - SUSPECT FAULTY SOLENOID OR HIGH HOURS - SEE MDR 96/1940 FOR FURTHER INFORMATION									
3260		CESSNA 402B		MCAULY 3AF32C87		SWITCH JE6	FAULTY MLG DOWNLOCK		1/30/97 AU970081
(AUS) LH MAIN LANDING GEAR DOWNLOCK MICROSWITCH LEAF SPRING BROKEN									
7120		CESSNA 402A		MCAULY 3AF32C87		BEAM	BUCKLED ENG SUPPORT LH		9/14/94 CA940914042
(CAN) LH OUTBOARD ENGINE SUPPORT BEAM HAD 2 BUCKLED AREAS FORWARD & AFT OF ENGINE SUPPORT MOUNT. POSSIBLY A RESULT OF A HARD LANDING.									
5343		DHAV DHC3				FITTING 12730	CRACKED FLOAT ATTACH		8/29/94 CA940912101
(CAN) RH FORWARD UPPER FLOAT STRUT TO FUSELAGE FITTING CRACKED, REPLACED.									
3040		EMB EMB110P1	PWA PT6A34	HARTZL HCB3TN3		WIPER ARM	BIRD STRIKE WINDSHIELD		2/3/97 AU970079
(AUS) AIRCRAFT SUFFERED BIRDSSTRIKE - IMPACT DAMAGE ON NLG LEG AND IN AREA OF COPILOTS WINDSCREEN WIPER ARM ACTUATOR POST RESULTING IN MINOR BENDING OF THE WIPER ARM - NIL OTHER DAMAGE									
5753		EMB EMB110P1	PWA PT6A34	HARTZL HCB3TN3		SUPPORT 110262192	CRACKED TE FLAP STRUCTUR		2/1/97 AU970088
(AUS) WING FLAP SUPPORT ASSEMBLY CRACKED - FOUND DURING INSPECTION IAWOSIP 2706 - SUSPECT ORIGINAL FITMENT PNO 4A-2621-46									
2612		GULSTM 695B		ROTOL R306382F7		DETECTOR 1734361450	FAULTY RT ENG DET SYS		2/11/97 AU970095
(AUS) RH ENGINE FIRE DETECTORS SUSPECT FAULTY - DETECTORS WERE CHECKEDSATISFACTORY - SUSPECT RH ENGINE EXHAUST SEAL PNO 610652-69 MAY HAVE BEEN LEAKING CAUSING HOT AIR TO BE DIRECTED ONTO FIRE DETECTORS - ALTHOUGH THERE WAS NO EVIDENCE OF LEAKAGE THE SEAL WAS REPLACED									
2510		PIPER PA22108	LYC O235C1B	SNSNCH M76AM		SEAT BELT	UNAPPROVED PART FLIGHT COMPART		1/22/97 AU970104
(AUS) NON-APPROVED HARDWARE AND WEBBING USED IN SEAT BELTS - UNAPPROVED PART - PERSONNEL/MAINTENANCE ERROR									
2710		PIPER PA28180				SUPPORT 6210201	CRACKED LH & RH WINGS	5487	6/13/94 CA940914047
(CAN) BOTH LH AND RH AILERON BELLCRANK SUPPORTS FOUND CRACKED AT FORWARD FLANGE RADIUS DURING 100 HOUR INSPECTION. BOTH CRACKS APPROXIMATELY 3/4 INCHES LONG. RH SUPPORT REPLACED, LH SUPPORT REPAIRED.									

***** DENOTES SIGNIFICANT OCCURRENCE

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT (cont'd)

11/16/97 To 11/22/97 ISSUE: 97-47 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2912		PIPER PA31	LYC TIO540A2B		PUROLATOR PR301	O-RING MS28775217	FAULTY HYDRAULIC FILTER		2/13/97 AU970099
(AUS) HYDRAULIC SYSTEM PUROLATOR FILTER `O' RING SEAL FAULTY - OIL LEAKING - NOSE WHEEL FAILED TO EXTEND - DAMAGE TO FORWARD FUSELAGE AND PROPELLERS									
3260		PIPER PA31	LYC TIO540A2C			SWITCH 487862	CORRODED RH MLG		6/16/94 CA940914039
(CAN) RH MLG DOWNLOCK MICROSWITCH DID NOT COMPLETE ELECTRICAL CIRCUIT AFTER MANY ATTEMPTS. ON RETURN TO BASE IT THEN WORKED OK. MICROSWITCH PLUNGER HAD EXHAUST DEPOSITS & A BIT OF CORROSION.									
2410		PIPER PA32300	LYC IO540K1A5	HARTZL HCC2YK1		DRIVE BELT 76026	UNAPPROVED PART ALTERNATOR-GENEI		2/2/97 AU970087
(AUS) ALTERNATOR DRIVE BELT STRETCHED AND SLIPPING - INVESTIGATION FOUND THAT THE DRIVE BELT FITTED WAS IN FACT AN AUTOMOTIVE PART (BOSCH 13A0965 FOR FITMENT TO TOYOTA MOTOR VEHICLES) AND NOT APPROVED FOR FITMENT TO AIRCRAFT - PULLEY PNO 77579 WAS EXCESSIVELY WORN IN THE GROOVE - PERSONNEL/MAINTENANCE ERROR -UNAPPROVED PART									
3213		SOCATA TB9	LYC O320D2A	SNSNCH 74DM		TORQUE LINK TB1041033000	BROKEN MLG		2/18/97 AU970107
(AUS) RH MAIN LANDING GEAR LOWER TORQUE LINK FAILED AT LOWER ATTACHMENT HOLES									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS **11/16/97 - 11/22/97** **ISSUE: 97-47** **ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2620		BELL	PWA			PIPE	WATER CONTAM		8/24/94
		212	PT6T3			212060936001	ENGINE HALON		CA940909501
(CAN) WHILE REMOVING THE R/H FIRE EXTINGUISHER THE AME FOUND WATER IN THE PIPE THAT DELIVERS HALON TO THE NR1 ENGINE. THE NR 1 PIPE WAS HALF FULL OF WATER IN THE ELBOW. THE INFILTRATION OF WATER IS PROBABLY DUE TO THE REGULAR WASHING OF THE AIRCRAFT, DURING WHICH TIME, WATER ENTERS THE PIPE THROUGH THE HALON ESCAPE HOLES AND TENDS TO COLLECT IN THE ELBOW.									
5311		ROBSIN	LYC			FRAME	CRACKED		1/3/97
		R22MARINER	O320B2C			A0202	FUSELAGE	888	AU970098
(AUS) FUSELAGE UPPER FRAME CRACKED IN AREA UNDER MAIN GEARBOX MOUNT PADS AS REFERRED IN AD/R22/41 AMDT1									
6210		SKRSKY	GE			BLADE	DEBONDED	7000	7/28/94
		S61N	CT58*			6117020201067	MAIN ROTOR		CA940906002
(CAN) WHILE IN CRUISE FLIGHT, A BUFFETING WAS FELT IN THE FLIGHT CONTROLS. A PRECAUTIONARY LANDING AND SHUTDOWN WAS CARRIED OUT. THE NR4 POCKET OF THE RED BLADE WAS FOUND DELAMINATED FROM THE SPAR. BLADE REPLACED. THE BLADE WILL BE SENT TO SIKORSKY FOR INSPECTION AND REPAIR.									

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
8530		BEECH A100	LYC O320E2D		LYC	LIFTER 7829	COLLAPSED NR3 CYL INT		8/20/94 CA940914023
(CAN) SHORTLY AFTER TAKEOFF THE ENGINE BEGAN TO RUN ROUGH. THE AIRCRAFT RETURN TO BASE. TROUBLESHOOTING REVEALED THE NR3 CYLINDER INDUCTION LIFTER HAD COLLAPSED CAUSING AN EXTREMELY LEAN MIXTURE TO THE AFFECTED CYLINDER. A NEW LIFTER WAS INSTALLED & THE AIRCRAFT RETURNED TO SERVICE.									
7414		BEECH 95B55	CONT IO470L	MCAULY 2AF34C55	BENDIX S6RN1205	GEAR IO349237	MELTED MAGNETO/DISTRIBU		2/6/97 AU970070
(AUS) LH ENGINE RH MAGNETO DISTRIBUTOR GEAR MELTED - HT CONTACT SEPARATED FROM GEAR - BEARING FAILED - LARGE PIECE OF SLOW SPEED DISTRIBUTOR GEAR MISSING									
8530		CESSNA 182Q	CONT O470U	MCAULY C2A34C204	CONT O470U	CYLINDER 646267CA4	WORN RECIP ENG		2/3/97 AU970084
(AUS) ENGINE CYLINDER BORES EXCESSIVELY WORN IN TOP AND BOTTOM AREAS OF THE CYLINDER. PISTON RING CAUGHT IN WORN GROOVE CAUSING IT TO BREAK. ENGINE HAS CHROMED CYLINDERS INSTALLED AND IT IS SUSPECTED THAT THE ENGINE WAS OPERATING WITHOUT ADEQUATE LUBRICATION.									
7314		CESSNA 404CESSNA	CONT GTSIO520M	MCAULY 3FF32C501		PUMP 6328183	FAILED ENGINE FUEL		1/19/97 AU970101
(AUS) LH ENGINE DRIVEN FUEL PUMP INTERNAL FAILURE - INVESTIGATION BY OVERHAUL SHOP COULD FIND NO FAULTS									
7313		CESSNA 441	GARRTT TPE3318	HARTZL HCB3TN5	GARRTT TPE3318403S	NOZZLE 31029542	LEAKING FUEL INJECTOR		1/31/97 AU970065
(AUS) FUEL NOZZLE BODY LEAKING - INVESTIGATION FOUND TWO PIN HOLES IN THE BODY BASE - NOZZLES WERE A NEW ITEM									
7250		EMB EMB110P2	PWA PT6A34	HARTZL HCB3TN3		BLADE 3013411	DAMAGED TURBINE	5074	1/17/97 AU970069
(AUS) ALL COMPRESSOR TURBINE BLADES DAMAGED BY FOD - DAMAGE INCLUDED BENDING OF BLADE LEADING EDGES AND MISSING SECTIONS - INVESTIGATION FOUND FOD TO BE A POWER TURBINE CONTAINMENT RING RETAINING BOLT									
8520		GULSTM GA7	LYC O320D1D			CONNECTING ROD	BROKEN NR 4 CYL		1/27/97 AU970062
(AUS) NO4 CYLINDER CONNECTING ROD BROKEN IN AREA JUST BELOW PISTON PIN BOSS									
8530		PIPER PA18135	LYC O320B2B	SNSNCH 74DM	LYC C875907CP	VALVE SEAT 72058	LOOSE NR 3 CYL EXH	1364	8/22/94 CA940914004
(CAN) ON LANDING APPROACH ENGINE STARTED RUNNING ROUGH. GROUND INSPECTION FOUND NR3 CYLINDER HAD NO COMPRESSION. EXHAUST VALVE SEAT HAD DISLODGED JAMMING THE EXHAUST VALVE IN THE OPEN POSITION. THE NR3 CYLINDER WAS REPLACED.									
8520		PIPER PA25235	LYC O540B2C5	MCAULY 1A200FA	LYC O540B2C5	DOWEL 69796	SHEARED ENG RT CASE		1/29/97 AU970109
(AUS) RH CRANKCASE NO3 DOWEL SHEARED ALLOWING MOVEMENT OF THE MAINBEARINGS - WEAR ALSO TO CRANKCASE TUNNEL AND SCORING OF THE CRANKCASE JOURNAL - DOWEL WAS SUPERCEDED (STEPPED) TYPE									
8530		PIPER PA25235	LYC O540B2C5	MCAULY 1A200FA	SUPAIRPART SL36000NA20	PISTON SL75089	CRACKED CYLS 1- 3- 5		1/29/97 AU970110
(AUS) NO1, NO3 AND NO5 PISTONS CRACKED IN AREA OF SKIRT OPPOSITE TO THE PISTON PIN BOSS - NO1, N3 AND NO5 INDUCTION TUBES FOUND LOOSE ALLOWING UNMETERED AIR INTO ENGINE CAUSING SUSPECTED LEAN MIXTURE - NO5 CYLINDER SPARK PLUGS IN POOR CONDITION - PISTONS ARE HIGH COMPRESSION TYPE - ENGINE RUNS ON MOGAS									
8520		PIPER PA31	LYC TIO540A2B	HARTZL HCE3YR1	LYC	CRANKCASE LW12030	CRACKED NR1 CYLINDER	547	8/29/94 CA940902030
(CAN) DURING INSPECTION THE CRANKCASE WAS FOUND CRACKED BELOW NR1 CYLINDER.									

***** DENOTES SIGNIFICANT OCCURRENCE

ATA	REG. NO	ACFT MAKE	ENG MAKE	PROP MAKE	COMP MFG	PART NAME	PART COND	TT	DIFF. DATE
OPER	SERIAL NO	ACFT MODEL	ENG MDL	PROP MDL	COMP MDL	PART NUMBER	PART LOC.	TSO	OPER CONT NO

(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - ENGINES)

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS

11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2310		BEECH	PWA	MCAULY		WIRE	FAULTY		1/23/97
		200BEECH	PT6A42	4HFR34C754		22GAWIRE	HF COMMUNICATION		AU970103
	(AUS) HF INSTALLATION SUSPECT FAULTY - INSUFFICIENT PROTECTION OF 22GAWIRE CONNECTING THE LAMP TO THE 15AMP CIRCUIT BREAKER - IF THE22GA WIRE SHORT CIRCUITS TO THE AIRFRAME IT IS SUSPECTED THAT THE 15AMP CIRCUIT BREAKER WOULD NOT TRIP ALLOWING THE WIRE TO THEN BURN/OVERHEAT - AIRCRAFT WAS PREVIOUSLY REGISTERED AS VH-RFX								
2562		PIPER	LYC	HARTZL		BATTERY	LEAKING		1/22/97
		PA32300	IO540K1G5	HCC2YK1	E01	MN1300	ELT		AU970089
	(AUS) ELT BATTERY LEAKING - AIRCRAFT OPERATES IN THE TROPICS - SEE MDR96/2008 FOR SIMILAR DEFECT								
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - COMPONENTS)									

INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS**11/16/97 - 11/22/97 ISSUE: 97-47 ZAC-327**

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6111		BEECH 58	CONT IO520C	HARTZL PHCJ3YF2		SPRING A1588B	FAULTY PROPELLER BLADE	1714	2/3/97 AU970077
(AUS) PROPELLER LATCH SPRING KIT FOUND TO BE MADE UP OF SUPERCEDED PARTS - FITTED AT LAST OVERHAUL IN USA - PERSONNEL/MAINTENANCE ERROR									
6110		BEECH 95B55	CONT IO470L	MCAULY 2AF34C55		SEAL 2AF34C55	PINCHED PROP BLADE NUT		2/7/97 AU970093
(AUS) PROPELLER BLADE NUT SEALS PINCHED GIVING INEFFECTIVE SEALING - SEALING WAS ACHIEVED BY THE USE OF SILASTIC SEALANT BETWEEN THE BLADE NUT THREADS AND HUB AND LOCK RING ASSEMBLY - INCORRECT ASSEMBLY - PERSONNEL/MAINTENANCE ERROR - PROPELLER HAD BEEN MODIFIED TO OIL FILLED CONFIGURATION									
6110		BEECH 95B55	CONT IO470L	MCAULY 2AF34C55		PROPELLER 2AF34C55	LOOSE PROPELLER ASSEMB		2/6/97 AU970071
(AUS) LH ENGINE PROPELLER LOOSE ON CRANKSHAFT - ALL SIX RETAINING NUTS WERE LOOSE - FOLLOWING REMOVAL OF PROPELLER ONE OF TWO DOWELS WAS FOUND TO BE BROKEN - SUSPECT BOLTS WERE NOT TORQUED WHEN PROPELLER WAS REFITTED TWENTY THREE HOURS PREVIOUSLY (DEC 1996) - PERSONNEL/MAINTENANCE ERROR									
6111		CESSNA 177B	LYC O360A1F6	MCAULY B2D34C211		BLADE B40802	BROKEN PROP	1732 351	9/2/94 CA940914001
(CAN) IN CRUISE AT 12,500 FEET, ABOUT SIX INCHES OF BLADE BROKE OFF ONE PROPELLER BLADE									
6114		CESSNA U206F	CONT	MCAULY D3A32C90	MCAULY	HUB	CRACKED PROP	1487 1487	8/20/94 CA940912102
(CAN) DURING THE PILOTS WALK AROUND AFTER A FLIGHT, RED DYE WAS NOTICED ON THE PROPELLER & ENGINE COWLS. THE PROPELLER WAS REMOVED & SENT TO A REPAIR FACILITY. AN INSPECTION WAS CARRIED OUT & A CRACK WAS FOUND IN THE PROPELLER HUB.									
6111		CESSNA 441		HARTZL HCB3TN5		LATCH 83023	CRACKED PROPELLER BLADE	2958	2/14/97 AU970092
(AUS) PROPELLER STARTING LATCH CRACKED									
6112		CESSNA 441		HARTZL HCB3TN5		SLIP RING 4E1614	SEPARATED PROPELLER DE-ICE	3011	2/14/97 AU970094
(AUS) PROPELLER SLIP RING SEPARATING FROM DE-ICE PLATTER - SUSPECT NONAPPROVED REPAIR CARRIED OUT									
(End of INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - PROPELLERS)									



U.S. Department
of Transportation
**Federal Aviation
Administration**

SERVICE DIFFICULTY REPORT SUMMARY

GENERAL AVIATION - INDEX



The following information provides a tally of the Service Difficulty Reports (SDR's) contained in this weeks issue of the General Aviation SDR Summary. The totals represent only a summation of the SDR's that were submitted to the FAA, Aviation Data Systems Branch, AFS-620, and processed in time for inclusion in the Summary. The first table is a tally of the number of SDR's submitted through the indicated Flight Standards District Office (FSDO). The second table sorts the SDR's by the aircraft or equipment make and model. The heading at the top of each table provides a two digit Joint Aircraft System/Component (JASC) code grouping (e.g., JASC codes 1100 thru 1800 are represented by the heading labeled 11-18) which categorizes in general, the problem areas for each reported discrepancy.

The Flight Standards Service Difficulty Program objective is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products. This is accomplished by the collection of Service Difficulty and Malfunction or Defect Reports. SDR's are consolidation and collation into common data base where they are analyzed for trends, problems, and alert information. This information is then disseminated to the appropriate segments of the aviation community and to other FAA offices.

The number of SDR's submitted is not an indicator of the mechanical reliability or fitness of an air carrier's aircraft fleet and should not be used as such. The air carriers certificate holding office has the primary responsibility for planning, programming evaluations, and assessing the performance of operators. Questions regarding an air carrier's fleet performance should be directed to the appropriate Flight Standards District Office, Certificate Management Office, or Certificate Management Unit.

GENERAL AVIATION SUMMARY INDEX BY DISTRICT OFFICE**11/16/97 To 11/22/97 ISSUE: 97-47 ZAC-327**

DISTRICT OFFICE		SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AL	01	0	0	0	0	0	1	1	1	3
AU	S	0	12	6	0	7	5	4	4	38
CA		0	3	6	0	4	3	1	3	20
EA	07	0	0	0	0	1	0	2	0	3
EA	13	0	1	0	0	0	0	0	0	1
EA	17	0	0	0	0	0	0	1	0	1
EA	23	0	0	2	0	0	0	0	0	2
GL	05	0	0	1	0	2	0	0	0	3
GL	11	0	0	0	0	1	0	0	0	1
GL	19	0	0	0	0	0	0	0	1	1
GL	21	0	1	0	0	0	0	0	0	1
GL	27	0	0	0	0	0	0	0	1	1
NE	01	0	1	0	0	0	3	0	0	4
NE	05	0	0	0	0	1	0	0	0	1
NM	03	0	0	0	0	0	1	0	0	1
NM	09	0	1	0	0	0	1	1	0	3
NM	11	0	0	0	0	0	1	2	0	3
SO	01	0	0	0	0	0	0	1	0	1
SO	03	0	0	1	0	3	0	0	0	4
SO	05	0	0	1	0	0	0	1	0	2
SO	07	0	0	0	0	0	1	0	0	1
SO	09	0	1	0	0	0	0	0	0	1
SO	13	0	1	0	0	0	0	2	0	3
SO	16	0	0	1	0	0	0	0	1	2
SO	17	0	0	0	0	0	0	1	0	1
SW	01	0	0	1	0	4	0	0	0	5

DISTRICT OFFICE	11-18	21-29	SDR TOTALS BY FAA ATA SYSTEM CHAPTER						71-79	80-85	TOTAL
			30-38	45-49	51-57	61-67					
SW 03	0	39	54	0	17	55		37	0		202
SW 05	0	0	0	0	0	0		0	1		1
SW 13	0	1	0	0	0	0		0	0		1
SW 15	0	0	0	0	0	0		0	1		1
SW 19	0	0	0	0	0	0		1	0		1
SW 99	0	0	1	0	0	0		0	2		3
WP 09	0	0	0	0	1	0		0	0		1
TOTALS	0	61	74	0	41	71		55	15		317

(End of GENERAL AVIATION SUMMARY INDEX by DISTRICT OFFICE Report)

GENERAL AVIATION SUMMARY INDEX by MANUFACTURER MAKE and MODEL**11/16/97 To 11/22/97 ISSUE: 97-47 ZAC-327**

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
AEROSP	SA315B	0	0	0	0	0	1	0	0	1
AEROSP	SA365N1	0	0	0	0	0	0	2	0	2
AGUSTA	A109C	0	0	0	0	1	0	0	0	1
BBAVIA	7GCBC	0	0	0	0	0	0	1	0	1
BEECH	100BEECH	0	0	0	0	1	0	0	0	1
BEECH	200BEECH	0	3	0	0	0	1	0	0	4
BEECH	200BEECH	0	1	0	0	1	0	0	0	2
BEECH	200CBEECH	0	0	0	0	0	0	1	0	1
BEECH	58	0	1	0	0	0	1	0	1	3
BEECH	58P	0	0	1	0	4	0	0	0	5
BEECH	76	0	0	0	0	0	0	0	1	1
BEECH	95B55	0	0	0	0	0	2	1	0	3
BEECH	95C55	0	0	0	0	0	0	0	1	1
BEECH	A100	0	0	1	0	0	0	0	1	2
BEECH	A2324	0	1	0	0	0	0	0	0	1
BEECH	C23	0	0	0	0	0	0	0	1	1
BEECH	C90A	0	0	1	0	0	0	0	0	1
BEECH	D55	0	0	0	0	1	0	0	0	1
BELL	205A1	0	0	0	0	0	0	1	0	1
BELL	205A1	0	0	0	0	0	1	0	0	1
BELL	206B	0	0	0	0	0	0	1	0	1
BELL	206B3	0	1	0	0	0	0	0	0	1
BELL	206B3	0	0	0	0	0	2	0	0	2
BELL	206L1	0	5	6	0	4	7	4	0	26
BELL	206L3	0	4	12	0	3	2	2	0	23
BELL	212	0	3	4	0	1	3	0	0	11
BELL	214ST	0	9	3	0	0	4	0	0	16

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
BELL	222U	0	0	0	0	0	0	1	0	1
BELL	230	0	0	0	0	0	2	0	0	2
BELL	407	0	0	1	0	0	5	4	0	10
BELL	412	0	10	18	0	8	3	10	0	49
BNORM	BN2A20	0	1	0	0	0	0	0	0	1
BNORM	BN2B20	0	1	0	0	0	0	0	0	1
BOLKMS	BK117A3	0	0	0	0	0	1	2	0	3
BOLKMS	BK117A4	0	1	0	0	0	0	0	0	1
BOLKMS	BK117A4	0	0	0	0	0	0	1	0	1
BOLKMS	BK117B2	0	1	0	0	0	1	1	0	3
BOLKMS	BO105CBS	0	0	0	0	0	1	0	0	1
BOLKMS	BO105S	0	0	4	0	0	10	8	0	22
CAMAIR	480	0	0	0	0	1	0	0	0	1
CESSNA	152	0	0	0	0	1	0	0	0	1
CESSNA	172D	0	1	0	0	0	0	0	0	1
CESSNA	172F	0	0	0	0	1	0	0	0	1
CESSNA	172H	0	1	0	0	0	0	2	0	3
CESSNA	172N	0	0	0	0	3	0	0	0	3
CESSNA	172RG	0	0	1	0	0	0	0	0	1
CESSNA	172RG	0	1	0	0	0	0	0	0	1
CESSNA	177B	0	0	0	0	0	1	0	0	1
CESSNA	182E	0	0	0	0	1	0	0	0	1
CESSNA	182G	0	0	1	0	0	0	0	0	1
CESSNA	182Q	0	0	0	0	0	0	0	1	1
CESSNA	208	0	1	0	0	0	0	0	0	1
CESSNA	208B	0	0	0	0	0	3	0	0	3
CESSNA	210H	0	0	1	0	0	0	0	0	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
CESSNA	210N	0	0	1	0	0	0	0	0	1
CESSNA	310R	0	1	2	0	1	0	0	0	4
CESSNA	402A	0	0	0	0	0	0	1	0	1
CESSNA	402B	0	0	1	0	0	0	0	0	1
CESSNA	402B	0	0	1	0	0	0	0	0	1
CESSNA	402C	0	0	3	0	0	0	0	0	3
CESSNA	404CESSNA	0	0	0	0	0	0	1	0	1
CESSNA	441	0	0	0	0	0	2	1	0	3
CESSNA	525	0	1	0	0	0	0	0	0	1
CESSNA	A152	0	0	0	0	1	0	0	0	1
CESSNA	S550	0	0	0	0	2	0	0	0	2
CESSNA	T188C	0	0	0	0	0	1	0	0	1
CESSNA	T210L	0	0	0	0	1	0	0	0	1
CESSNA	T210M	0	0	0	0	0	0	0	1	1
CESSNA	T210N	0	0	0	0	0	0	1	0	1
CESSNA	T337G	0	1	0	0	0	0	0	0	1
CESSNA	U206F	0	0	0	0	0	1	0	0	1
DHAV	DHC3	0	0	0	0	1	0	0	0	1
DHAV	DHC6300	0	0	0	0	0	0	1	0	1
EMB	EMB110P1	0	0	1	0	1	0	0	0	2
EMB	EMB110P2	0	0	0	0	0	0	1	0	1
GULSTM	695B	0	1	0	0	0	0	0	0	1
GULSTM	GA7	0	0	0	0	0	0	0	1	1
MOONEY	M20L	0	0	1	0	0	0	0	0	1
PIPER	PA18135	0	0	0	0	0	0	0	1	1
PIPER	PA22108	0	1	0	0	0	0	0	0	1
PIPER	PA23250	0	0	0	0	0	0	0	1	1

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
PIPER	PA25235	0	0	0	0	0	0	0	2	2
PIPER	PA28151	0	0	0	0	1	0	0	0	1
PIPER	PA28161	0	0	0	0	0	0	0	1	1
PIPER	PA28180	0	1	0	0	0	0	0	0	1
PIPER	PA28R200	0	0	2	0	0	0	0	0	2
PIPER	PA31	0	0	1	0	0	0	0	1	2
PIPER	PA31	0	1	0	0	0	0	0	0	1
PIPER	PA31350	0	0	0	0	0	0	1	0	1
PIPER	PA31350	0	0	0	0	0	0	0	1	1
PIPER	PA31P	0	0	0	0	0	0	1	0	1
PIPER	PA32260	0	0	0	0	0	0	1	0	1
PIPER	PA32300	0	2	0	0	0	0	0	0	2
PIPER	PA32R301	0	1	0	0	0	0	0	0	1
PIPER	PA34200T	0	1	0	0	0	0	0	0	1
PIPER	PA44180	0	0	1	0	0	0	0	0	1
ROBSIN	R22MARINER	0	0	0	0	1	0	0	0	1
ROBSIN	R44	0	1	0	0	0	0	0	0	1
SKRSKY	S61N	0	0	0	0	0	1	0	0	1
SKRSKY	S76A	0	3	4	0	1	5	0	0	13
SNIAS	AS350B2	0	0	1	0	0	10	4	0	15
SOCATA	TB9	0	0	1	0	0	0	0	0	1
TOTALS		0	61	74	0	41	71	55	15	317

(End of AIR CARRIER SUMMARY INDEX by OPERATOR Report)

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

PREFACE

The Joint Aircraft System/Component (JASC) Code Table is a modified version of the Air Transport Association of America (ATA), Specification 100 code. It was developed by the Federal Aviation Administration's (FAA), Aviation Data Systems Branch (AFS-620). Technical support was provided by the Galaxy Scientific Corporation, and various representatives of the air carrier and general aviation community.

Over the past four years, the JASC format of the ATA Spec 100 code has gained widespread industry acceptance. In a harmonized effort, the FAA's counterparts in Australia and Canada have adopted the JASC code with only a few exceptions. Some Canadian aircraft manufacturers have also recently adopted this new standard.

This code table is constructed by using the new JASC four (4) digit code, along with an abbreviated code title. The abbreviated titles have been modified in some cases to clarify the intended use of the accompanying code. This table can be used as a quick reference chart, to assist in the coding and review of aircraft structures or systems data (i.e., Service Difficulty Report (SDR), Accident/Incident Report).

The current coding scheme used in the JASC code was introduced in May 1991, for the technical classification of SDR's. Its predecessor, the FAA aircraft system/component code, was a similar but more complex eight-digit code which was developed over 25 years ago. It was constructed around the computer technology of that period. It consisted of a four digit numerical code plus a four alpha character code to make data retrieval possible. Since that time, computer technology has advanced many fold. Reducing the code from eight to four characters simplifies coding, and in some cases, makes JASC coding match the ATA Specification 100 first three digits, which are used to identify aircraft systems. The ATA code does not reference the fourth digit, so it is free to be used for identifying components.

The JASC code aircraft structural section has increased due to problems inherent with aging aircraft. As an example, FAA code 5301 SXBD was expanded to 20 items due to the high rate of reporting in this area (8021 structural reports were received in 1989). In some instances, there was very little reporting and codes were combined into other systems if the safety impact was not significant. The overall reduction in codes has been from 568 FAA codes to 488 JASC codes, with the significant increase being in the structural area as stated earlier.

The JASC code divides the engine section into two major code groups to separate the turbine and reciprocating engines. The codes for the turbine engines are in JASC Chapter 72, Turbine/Turboprop Engine. The codes for the reciprocating engines are now exclusively found in JASC Chapter 85, Reciprocating Engine.

The other major deviation from ATA Spec 100 is in ATA section 2730, specifically involves the stall warning system. Early technology (primarily on smaller aircraft) directly linked the sensing of flight attitude to one of the components which furnished the means of manually controlling the flight attitude characteristics (elevator). Today, most large transport category aircraft utilize electronic units to sense the change in the environmental condition called stall, and use the data to influence navigation. ATA section 3410, Flight Environment Data, includes high speed warning in its code definition. Stall warning (low speed) is the reciprocal term of high speed warning, so its filing under the same code appears more logical. Thus, with the JASC code it was decided to move the stall warning system to Chapter 34 under the separate code JASC code 3418, Stall Warning System.

The FAA is continuing to pursue worldwide involvement from operators and manufacturers in addressing the need for international standardization of aircraft system/component codes. The ultimate goal is to develop a universal aircraft/component numbering standard which can be used in the manufacturer's maintenance manual, wiring diagram manual, system manuals and illustrated parts catalog. This harmonized standard must be a usable standard for the aircraft manufacturers, air carrier operators and the general aviation community.

We welcome comments and feedback regarding the possible forming of working groups to achieve this long range consideration of possibly harmonizing the ATA Specification 100 code and the JASC code. Comments may be directed to the FAA, Aviation Data Sytem Branch, AFS-620, P.O. Box 25082, Oklahoma City, OK 73125.

JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

JASC/ TITLE

11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

12 SERVICING

1210 FUEL SERVICING
1220 OIL SERVICING
1230 HYDRAULIC FLUID SERVICING
1240 COOLANT SERVICING

18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS
1810 HELICOPTER VIBRATION ANALYSIS
1820 HELICOPTER NOISE ANALYSIS

21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM
2110 CABIN COMPRESSOR SYSTEM
2120 AIR DISTRIBUTION SYSTEM
2121 AIR DISTRIBUTION FAN
2130 CABIN PRESSURE CONTROL SYSTEM
2131 CABIN PRESSURE CONTROLLER
2132 CABIN PRESSURE INDICATOR
2133 PRESSURE REGUL/OUTFLOW VALVE
2134 CABIN PRESSURE SENSOR
2140 HEATING SYSTEM
2150 CABIN COOLING SYSTEM
2160 CABIN TEMPERATURE CONTROL SYSTEM
2161 CABIN TEMPERATURE CONTROLLER
2162 CABIN TEMPERATURE INDICATOR
2163 CABIN TEMPERATURE SENSOR
2170 HUMIDITY CONTROL SYSTEM

22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM
2210 AUTOPILOT SYSTEM
2211 AUTOPILOT COMPUTER
2212 ALTITUDE CONTROLLER
2213 FLIGHT CONTROLLER
2214 AUTOPILOT TRIM INDICATOR
2215 AUTOPILOT MAIN SERVO
2216 AUTOPILOT TRIM SERVO
2220 SPEED-ATTITUDE CORRECT. SYSTEM
2230 AUTO THROTTLE SYSTEM
2250 AERODYNAMIC LOAD ALLEVIATING

23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM
2310 HF COMMUNICATION SYSTEM
2311 UHF COMMUNICATION SYSTEM
2312 VHF COMMUNICATION SYSTEM
2320 DATA TRANSMISSION AUTO CALL
2330 ENTERTAINMENT SYSTEM
2340 INTERPHONE & PA SYSTEM
2350 AUDIO INTEGRATING SYSTEM
2360 STATIC DISCHARGE SYSTEM
2370 AUDIO/VIDEO MONITORING

24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM
2410 ALTERNATOR-GENERATOR DRIVE
2420 AC GENERATION SYSTEM
2421 AC GENERATOR-ALTERNATOR
2422 AC INVERTER
2423 PHASE ADAPTER

24 ELECTRICAL POWER CONT'D

2424 AC REGULATOR
2425 AC INDICATING SYSTEM
2430 DC GENERATING SYSTEM
2431 BATTERY OVERHEAT WARN. SYSTEM
2432 BATTERY/CHARGER SYSTEM
2433 DC RECTIFIER-CONVERTER
2434 DC GENERATOR-ALTERNATOR
2435 STARTER-GENERATOR
2436 DC REGULATOR
2437 DC INDICATING SYSTEM
2440 EXTERNAL POWER SYSTEM
2450 AC POWER DISTRIBUTION SYSTEM
2460 DC POWER/DISTRIBUTION SYSTEM

25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS
2510 FLIGHT COMPARTMENT EQUIPMENT
2520 PASSENGER COMPARTMENT EQUIPMENT
2530 BUFFET/GALLEYS
2540 LAVATORIES
2550 CARGO COMPARTMENTS
2551 AGRICULTURAL SPRAY SYSTEM
2560 EMERGENCY EQUIPMENT
2561 LIFE JACKET
2562 EMERGENCY LOCATOR BEACON
2563 PARACHUTE
2564 LIFE RAFT
2565 ESCAPE SLIDE
2570 ACCESSORY COMPARTMENT
2571 BATTERY BOX STRUCTURE
2572 ELECTRONIC SHELF SECTION

26 FIRE PROTECTION

2600 FIRE PROTECTION SYSTEM
2610 DETECTION SYSTEM
2611 SMOKE DETECTION
2612 FIRE DETECTION
2613 OVERHEAT DETECTION
2620 EXTINGUISHING SYSTEM
2621 FIRE BOTTLE, FIXED
2622 FIRE BOTTLE, PORTABLE

27 FLIGHT CONTROLS

2700 FLIGHT CONTROL SYSTEM
2701 CONTROL COLUMN SECTION
2710 AILERON CONTROL SYSTEM
2711 AILERON TAB CONTROL SYSTEM
2720 RUDDER CONTROL SYSTEM
2721 RUDDER TAB CONTROL SYSTEM
2722 RUDDER ACTUATOR
2730 ELEVATOR CONTROL SYSTEM
2731 ELEVATOR TAB CONTROL SYSTEM
2740 STABILIZER CONTROL SYSTEM
2741 STABILIZER POSITION INDICATING
2742 STABILIZER ACTUATOR
2750 TE FLAP CONTROL SYSTEM
2751 TE FLAP POSITION IND. SYSTEM
2752 TE FLAP ACTUATOR
2760 DRAG CONTROL SYSTEM
2761 DRAG CONTROL ACTUATOR
2770 GUST LOCK/DAMPER SYSTEM
2780 LE FLAP CONTROL SYSTEM
2781 LE FLAP POSITION IND. SYSTEM
2782 LE FLAP ACTUATOR

28 FUEL

2800 AIRCRAFT FUEL SYSTEM
2810 FUEL STORAGE
2820 ACFT FUEL DISTRIB. SYSTEM
2821 ACFT FUEL FILTER/STRAINER
2822 FUEL BOOST PUMP
2823 FUEL SELECTOR/SHUTOFF VALVE
2824 FUEL TRANSFER VALVE
2830 FUEL DUMP SYSTEM
2840 ACFT FUEL INDICATING
2841 FUEL QUANTITY INDICATOR
2842 FUEL QUANTITY SENSOR
2843 FUEL TEMPERATURE INDICATING
2844 FUEL PRESSURE INDICATOR

29 HYDRAULIC POWER

2900 HYDRAULIC POWER SYSTEM
2910 HYDRAULIC, MAIN SYSTEM
2911 HYDRAULIC POWER-ACCUMULATOR-MAIN
2912 HYDRAULIC FILTER-MAIN SYSTEM
2913 HYDRAULIC PUMP. ELECT-ENG.-MAIN
2914 HYDRAULIC HANDPUMP-MAIN
2915 HYDRAULIC PRESSURE RELIEF VLV-MAIN
2916 HYDRAULIC RESERVOIR-MAIN
2917 HYDRAULIC PRESSURE REGULATOR-MAIN
2920 HYDRAULIC, AUXILIARY SYSTEM
2921 HYDRAULIC ACCUMULATOR-AUXILIARY
2922 HYDRAULIC FILTER-AUXILIARY
2923 HYDRAULIC PUMP-AUXILIARY
2925 HYDRAULIC PRESSURE RELIEF-AUXILIARY
2926 HYDRAULIC RESERVOIR-AUXILIARY
2927 HYDRAULIC PRESSURE REGULATOR-AUX.
2930 HYDRAULIC SYSTEM INDICATING
2931 HYDRAULIC PRESSURE INDICATOR
2932 HYDRAULIC PRESSURE SENSOR
2933 HYDRAULIC QUANTITY INDICATOR
2934 HYDRAULIC QUANTITY SENSOR

30 ICE AND RAIN PROTECTION

3000 ICE/RAIN PROTECTION SYSTEM
3010 AIRFOIL ANTI/DE-ICE SYSTEM
3020 AIR INTAKE ANTI/DE-ICE SYSTEM
3030 PITOT/STATIC ANTI-ICE SYSTEM
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM
3070 WATER LINE ANTI-ICE SYSTEM
3080 ICE DETECTION

31 INSTRUMENTS

3100 INDICATING/RECORDING SYSTEM
3110 INSTRUMENT PANEL
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)
3130 DATA RECORDERS (FLT/MAINT)
3140 CENTRAL COMPUTERS (EICAS)
3150 CENTRAL WARNING
3160 CENTRAL DISPLAY
3170 AUTOMATIC DATA

32 LANDING GEAR

3200 LANDING GEAR SYSTEM
3201 LANDING GEAR/WHEEL FAIRING
3210 MAIN LANDING GEAR
3211 MAIN LANDING GEAR ATTACH SECTION
3212 EMERGENCY FLOTATION SECTION
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK
3220 NOSE/TAIL LANDING GEAR
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE
3230 LANDING GEAR RETRACT/EXT. SYSTEM
3231 LANDING GEAR DOOR RETRACT SECTION
3232 LANDING GEAR DOOR ACTUATOR
3233 LANDING GEAR ACTUATOR
3234 LANDING GEAR SELECTOR
3240 LANDING GEAR BRAKE SYSTEM
3241 BRAKE ANTI-SKID SECTION
3242 BRAKE
3243 MASTER CYL/BRAKE VALVE
3244 TIRE
3245 TIRE TUBE
3246 WHEEL/SKI/FLOAT
3250 LANDING GEAR STEERING SYSTEM
3251 STEERING UNIT
3252 SHIMMY DAMPER
3260 LANDING GEAR POSITION & WARNING
3270 AUXILIARY GEAR (TAIL SKID)

33 LIGHTS

3300 LIGHTING SYSTEM
3310 FLIGHT COMPARTMENT LIGHTING
3320 PASSENGER COMPARTMENT LIGHTING
3330 CARGO COMPARTMENT LIGHTING
3340 EXTERIOR LIGHTING
3350 EMERGENCY LIGHTING

34 NAVIGATION

3400 NAVIGATION SYSTEM
3410 FLIGHT ENVIRONMENT DATA
3411 PITOT/STATIC SYSTEM
3412 OUTSIDE AIR TEMP. IND./SENSOR
3413 RATE OF CLIMB INDICATOR
3414 AIRSPEED/MACH INDICATING
3415 HIGH SPEED WARNING
3416 ALTIMETER, BAROMETRIC/ENCODER

34 NAVIGATION CONT'D

3417 AIR DATA COMPUTER
3418 STALL WARNING SYSTEM
3420 ATTITUDE AND DIRECTION DATA SYSTEM
3421 ATTITUDE GYRO & IND. SYSTEM
3422 DIRECTIONAL GYRO & IND. SYSTEM
3423 MAGNETIC COMPASS
3424 TURN & BANK/RATE OF TURN INDICATOR
3425 INTEGRATED FLT. DIRECTOR SYSTEM
3430 LANDING & TAXI AIDS
3431 LOCALIZER/VOR SYSTEM
3432 GLIDE SLOPE SYSTEM
3433 MICROWAVE LANDING SYSTEM
3434 MARKER BEACON SYSTEM
3435 HEADS UP DISPLAY SYSTEM
3436 WIND SHEAR DETECTION SYSTEM
3440 INDEPENDENT POS. DETERMINING SYSTEM
3441 INERTIAL GUIDANCE SYSTEM
3442 WEATHER RADAR SYSTEM
3443 DOPPLER SYSTEM
3444 GROUND PROXIMITY SYSTEM
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)
3446 NON RADAR WEATHER SYSTEM
3450 DEPENDENT POSITION DETERMINING SYSTEM
3451 DME/TACAN SYSTEM
3452 ATC TRANSPONDER SYSTEM
3453 LORAN SYSTEM
3454 VOR SYSTEM
3455 ADF SYSTEM
3456 OMEGA NAVIGATION SYSTEM
3457 GLOBAL POSITIONING SYSTEM
3460 FLIGHT MANAGE. COMPUTING SYSTEM

35 OXYGEN

3500 OXYGEN SYSTEM
3510 CREW OXYGEN SYSTEM
3520 PASSENGER OXYGEN SYSTEM
3530 PORTABLE OXYGEN SYSTEM

36 PNEUMATIC

3600 PNEUMATIC SYSTEM
3610 PNEUMATIC DISTRIBUTION SYSTEM
3620 PNEUMATIC INDICATING SYSTEM

37 VACUUM

3700 VACUUM SYSTEM
3710 VACUUM DISTRIBUTION SYSTEM
3720 VACUUM INDICATING SYSTEM

38 WATER/WASTE

3800 WATER & WASTE SYSTEM
3810 POTABLE WATER SYSTEM
3820 WASH WATER SYSTEM
3830 WASTE DISPOSAL SYSTEM
3840 AIR SUPPLY (WATER PRESS. SYSTEM)

45 CENTRAL MAINT. SYSTEM

4500 CENTRAL MAINT. COMPUTER

49 AIRBORNE AUXILIARY POWER

4900 AIRBORNE APU SYSTEM
4910 APU COWLING/CONTAINMENT
4920 APU CORE ENGINE
4930 APU ENGINE FUEL & CONTROL
4940 APU START/IGNITION SYSTEM
4950 APU BLEED AIR SYSTEM
4960 APU CONTROLS
4970 APU INDICATING SYSTEM
4980 APU EXHAUST SYSTEM
4990 APU OIL SYSTEM

51 STANDARD PRACTICES/STRUCTURES

5100 STANDARD PRACTICES/STRUCTURES
5101 AIRCRAFT STRUCTURES
5102 BALLOON REPORTS

52 DOORS

5200 DOORS
5210 PASSENGER/CREW DOORS
5220 EMERGENCY EXIT
5230 CARGO/BAGGAGE DOORS
5240 SERVICE DOORS
5241 GALLEY DOORS
5242 E/E COMPARTMENT DOORS
5243 HYDRAULIC COMPARTMENT DOORS
5244 ACCESSORY COMPARTMENT DOORS
5245 AIR CONDITIONING COMPART. DOORS
5246 FLUID SERVICE DOORS

5247 APU DOORS
5248 TAIL CONE DOORS
5250 FIXED INNER DOORS
5260 ENTRANCE STAIRS
5270 DOOR WARNING SYSTEM
5280 LANDING GEAR DOORS

53 FUSELAGE

5300 FUSELAGE STRUCTURE (GENERAL)
5301 AERIAL TOW EQUIPMENT
5302 ROTORCRAFT TAIL BOOM
5310 FUSELAGE MAIN STRUCTURE
5311 FUSELAGE MAIN FRAME
5312 FUSELAGE MAIN BULKHEAD
5313 FUSELAGE MAIN LONGERON/STRINGER
5314 FUSELAGE MAIN KEEL
5315 FUSELAGE MAIN FLOOR BEAM
5320 FUSELAGE MISCELLANEOUS STRUCTURE
5321 FUSELAGE FLOOR PANEL
5322 FUSELAGE INTERNAL MOUNT STRUCTURE
5323 FUSELAGE INTERNAL STAIRS
5324 FUSELAGE FIXED PARTITIONS
5330 FUSELAGE MAIN PLATE/SKIN
5340 FUSELAGE MAIN ATTACH FITTINGS
5341 WING ATTACH FITTINGS (ON FUSELAGE)
5342 STABILIZER ATTACH FITTINGS
5343 LANDING GEAR ATTACH FITTINGS
5344 FUSELAGE DOOR HINGES
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS
5346 POWERPLANT ATTACH FITTINGS
5347 SEAT/CARGO ATTACH FITTINGS
5350 FUSELAGE AERODYNAMIC FAIRINGS

54 NACELLES/PYLONS

5400 NACELLE/PYLON STRUCTURE
5410 MAIN FRAME (ON NACELLE/PYLON)
5411 FRAME/SPAR/RIB(NACELLE/PYLON)
5412 BULKHEAD/FIREWALL (NAC/PYLON)
5413 LONGERON/STRINGER (NAC/PYLON)
5414 PLATE SKIN (NAC/PYLONS)
5415 ATTACH FITTINGS (NAC/PYLON)

55 STABILIZERS

5500 EMPENNAGE STRUCTURE
5510 HORIZONTAL STABILIZER STRUCTURE
5511 HORIZONTAL STABILIZER SPAR/RIB
5512 HORIZONTAL STABILIZER PLATE/SKIN
5513 HORIZONTAL STABILIZER TAB STRUCTURE
5520 ELEVATOR STRUCTURE

55 STABILIZERS CONT'D

5521 ELEVATOR SPAR/RIB STRUCTURE
5522 ELEVATOR PLATES/SKIN STRUCTURE
5523 ELEVATOR TAB STRUCTURE
5530 VERTICAL STABILIZER STRUCTURE
5531 VERTICAL STABILIZER SPAR/RIB STRUCTURE
5532 VERTICAL STABILIZER PLATES/SKIN
5533 VENTRAL STRUCTURE (ON VERT. STAB)
5540 RUDDER STRUCTURE
5541 RUDDER SPAR/RIB STRUCTURE
5542 RUDDER PLATE/SKIN STRUCTURE
5543 RUDDER TAB STRUCTURE
5550 EMPENNAGE FLT. CONT. ATTACH FITTING
5551 HORIZONTAL STABILIZER ATTACH FITTING
5552 ELEVATOR/TAB ATTACH FITTINGS
5553 VERT. STAB. ATTACH FITTINGS
5554 RUDDER/TAB ATTACH FITTINGS

56 WINDOWS

5600 WINDOW/WINDSHIELD SYSTEM
5610 FLIGHT COMPARTMENT WINDOWS
5620 PASSENGER COMPARTMENT WINDOWS
5630 DOOR WINDOWS
5640 INSPECTION WINDOWS

57 WINGS

5700 WING STRUCTURE
5710 WING MAIN FRAME STRUCTURE
5711 WING SPAR STRUCTURE
5712 WING RIB STRUCTURE
5713 WING LONGERON/STRINGER
5714 WING CENTER BOX
5720 WING MISCELLANEOUS STRUCTURE
5730 WING PLATES/SKINS
5740 WING ATTACH FITTINGS
5741 WING, FUSELAGE ATTACH FITTINGS
5742 WING, NAC/PYLON ATTACH FITTINGS
5743 WING, LANDING GEAR ATTACH FITTINGS
5744 CONTROL SURFACE ATTACH FITTINGS
5750 WING CONTROL SURFACE STRUCTURE
5751 AILERON STRUCTURE
5752 AILERON TAB STRUCTURE
5753 TE FLAP STRUCTURE
5754 LEADING EDGE DEVICE STRUCTURE
5755 SPOILER STRUCTURE

61 PROPELLERS/PROPULSORS

6100 PROPELLER SYSTEM
6110 PROPELLER ASSEMBLY
6111 PROPELLER BLADE SECTION
6112 PROPELLER DE-ICE BOOT SECTION
6113 PROPELLER SPINNER SECTION
6114 PROPELLER HUB SECTION
6120 PROPELLER CONTROL SYSTEM
6121 PROPELLER SYNCHRONIZER SECTION
6122 PROPELLER GOVERNOR
6123 PROPELLER FEATHERING/REVERSING
6130 PROPELLER BRAKING
6140 PROPELLER INDICATING SYSTEM

62 MAIN ROTOR

6200 MAIN ROTOR SYSTEM
6210 MAIN ROTOR BLADES
6220 MAIN ROTOR HEAD
6230 MAIN ROTOR MAST/SWASHPLATE
6240 MAIN ROTOR INDICATING SYSTEM

63 MAIN ROTOR DRIVE

6300 MAIN ROTOR DRIVE SYSTEM
6310 ENGINE/TRANSMISSION COUPLING
6320 MAIN ROTOR GEARBOX
6321 MAIN ROTOR BRAKE
6322 ROTORCRAFT COOLING FAN SYSTEM
6330 MAIN ROTOR TRANSMISSION MOUNT
6340 ROTOR DRIVE INDICATING SYSTEM

64 TAIL ROTOR

6400 TAIL ROTOR SYSTEM
6410 TAIL ROTOR BLADE
6420 TAIL ROTOR HEAD
6440 TAIL ROTOR INDICATING SYSTEM

65 TAIL ROTOR DRIVE

6500 TAIL ROTOR DRIVE SYSTEM
6510 TAIL ROTOR DRIVE SHAFT
6520 TAIL ROTOR GEARBOX
6540 TAIL ROTOR DRIVE INDICATING SYSTEM

67 ROTORS FLIGHT CONTROL

6700 ROTORCRAFT FLIGHT CONTROL
6710 MAIN ROTOR CONTROL
6711 TILT ROTOR FLIGHT CONTROL
6720 TAIL ROTOR CONTROL SYSTEM
6730 ROTORCRAFT SERVO SYSTEM

71 POWERPLANT

7100 POWERPLANT SYSTEM
7110 ENGINE COWLING SYSTEM
7111 COWL FLAP SYSTEM
7112 ENGINE AIR BAFFLE SECTION
7120 ENGINE MOUNT SECTION
7130 ENGINE FIRESEALS
7160 ENGINE AIR INTAKE SYSTEM
7170 ENGINE DRAINS

72 TURBINE/TURBOPROP ENGINE

7200 ENGINE (TURBINE/TURBOPROP)
7210 TURBINE ENGINE REDUCTION GEAR
7220 TURBINE ENGINE AIR INLET SECTION
7230 TURBINE ENGINE COMPRESSOR SECTION
7240 TURBINE ENGINE COMBUSTION SECTION
7250 TURBINE SECTION
7260 TURBINE ENGINE ACCESSORY DRIVE
7261 TURBINE ENGINE OIL SYSTEM
7270 TURBINE ENGINE BYPASS SECTION

73 ENGINE FUEL & CONTROL

7300 ENGINE FUEL & CONTROL
7310 ENGINE FUEL DISTRIBUTION
7311 ENGINE FUEL-OIL COOLER
7312 FUEL HEATER
7313 FUEL INJECTOR NOZZLE
7314 ENGINE FUEL PUMP
7320 FUEL CONTROLLING SYSTEM
7321 FUEL CONTROL/ELECTRONIC
7322 FUEL CONTROL/CARBURETOR
7323 TURBINE GOVERNOR
7324 FUEL DIVIDER
7330 ENGINE FUEL INDICATING SYSTEM
7331 FUEL FLOW INDICATING
7332 FUEL PRESSURE INDICATING
7333 FUEL FLOW SENSOR
7334 FUEL PRESSURE SENSOR

74 IGNITION

7400 IGNITION SYSTEM
7410 IGNITION POWER SUPPLY
7411 LOW TENSION COIL
7412 EXCITER
7413 INDUCTION VIBRATOR
7414 MAGNETO/DISTRIBUTOR
7420 IGNITION HARNESS (DISTRIBUTION)
7421 SPARK PLUG/IGNITER
7430 IGNITION SWITCHING

75 AIR

7500 ENGINE BLEED AIR SYSTEM
7510 ENGINE ANTI-ICING SYSTEM
7520 ENGINE COOLING SYSTEM
7530 COMPRESSOR BLEED CONTROL
7531 COMPRESSOR BLEED GOVERNOR
7532 COMPRESSOR BLEED VALVE
7540 BLEED AIR INDICATING SYSTEM

76 ENGINE CONTROLS

7600 ENGINE CONTROLS
7601 ENGINE SYNCHRONIZING
7602 MIXTURE CONTROL
7603 POWER LEVER
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM

77 ENGINE INDICATING

7700 ENGINE INDICATING SYSTEM
7710 POWER INDICATING SYSTEM
7711 ENGINE PRESSURE RATIO (EPR)
7712 ENGINE BMEP/TORQUE INDICATING
7713 MANIFOLD PRESSURE (MP) INDICATING
7714 ENGINE RPM INDICATING SYSTEM
7720 ENGINE TEMP. INDICATING SYSTEM
7721 CYLINDER HEAD TEMP (CHT) INDICATING
7722 ENG. EGT/TIT INDICATING SYSTEM
7730 ENGINE IGNITION ANALYZER SYSTEM
7731 ENGINE IGNITION ANALYZER
7732 ENGINE VIBRATION ANALYZER
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM

78 ENGINE EXHAUST

7800 ENGINE EXHAUST SYSTEM
7810 ENGINE COLLECTOR/TAILOPIPE/NOZZLE
7820 ENGINE NOISE SUPPRESSOR
7830 THRUST REVERSER

79 ENGINE OIL

7900 ENGINE OIL SYSTEM (AIRFRAME)
7910 ENGINE OIL STORAGE (AIRFRAME)
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)
7921 ENGINE OIL COOLER
7922 ENGINE OIL TEMP. REGULATOR
7923 OIL SHUTOFF VALVE
7930 ENGINE OIL INDICATING SYSTEM
7931 ENGINE OIL PRESSURE
7932 ENGINE OIL QUANTITY
7933 ENGINE OIL TEMPERATURE

80 STARTING

8000 ENGINE STARTING SYSTEM
8010 ENGINE CRANKING
8011 ENGINE STARTER
8012 ENGINE START VALVES/CONTROLS

81 TURBOCHARGING

8100 EXHAUST TURBINE SYSTEM (RECIP)
8110 POWER RECOVERY TURBINE (RECIP)
8120 EXHAUST TURBOCHARGER

82 WATER INJECTION

8200 WATER INJECTION SYSTEM

83 ACCESSORY GEARBOXES

8300 ACCESSORY GEARBOXES

85 RECIPROCATING ENGINE

8500 ENGINE (RECIPROCATING)
8510 RECIPROCATING ENGINE FRONT SECTION
8520 RECIPROCATING ENGINE POWER SECTION

8530 RECIPROCATING ENGINE CYLINDER SECTION
8540 RECIPROCATING ENGINE REAR SECTION
8550 RECIPROCATING ENGINE OIL SYSTEM

MECHANICS CREED

UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a certified mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge; nor shall I allow any non-certificated superior to persuade me to approve aircraft or equipment as airworthy against my better judgment; nor shall I permit my judgment to be influenced by money or other personal gain; nor shall I pass as airworthy aircraft or equipment about which I am in doubt, either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a certified airman, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation.